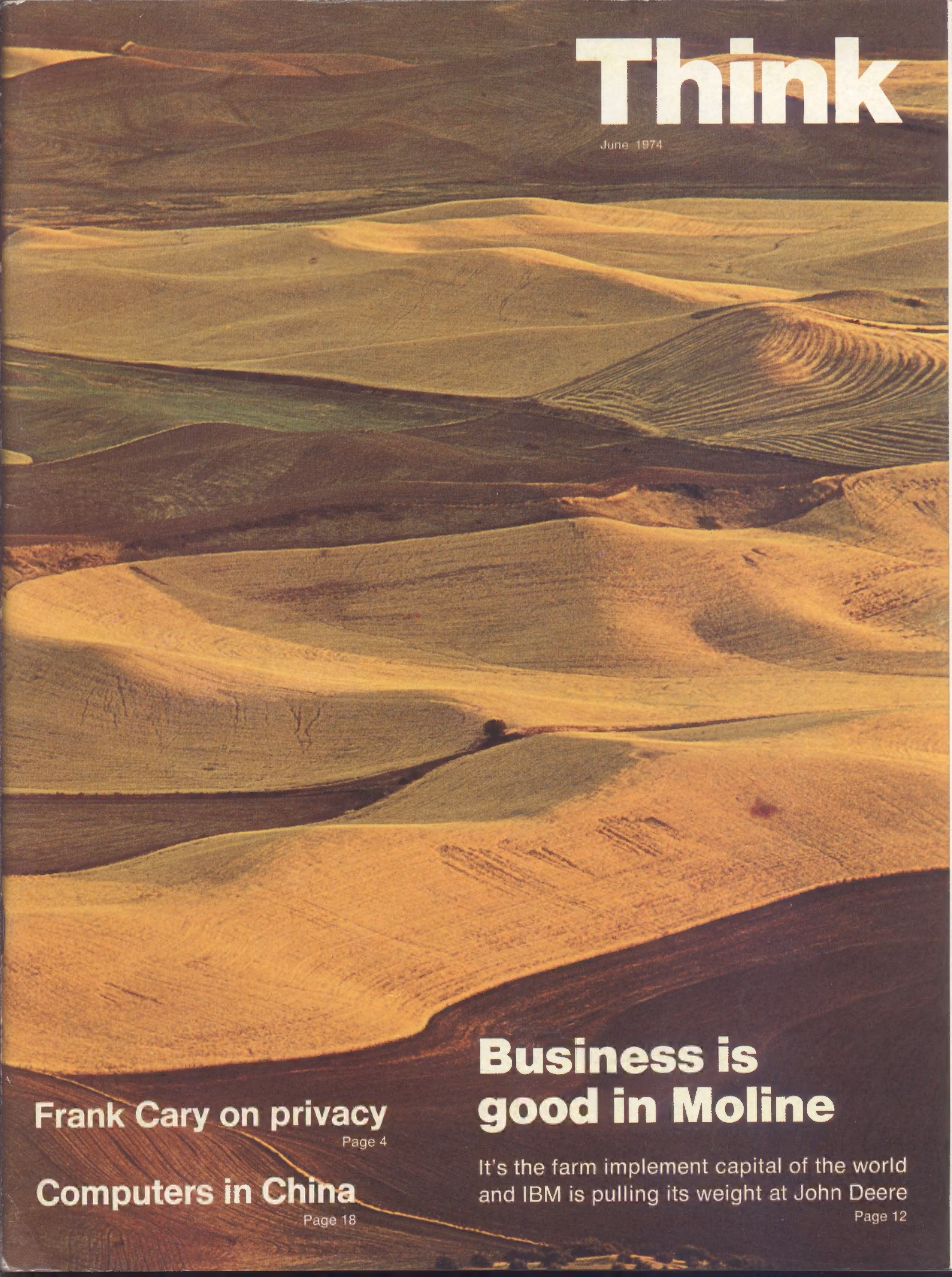

Think

June 1974

Business is good in Moline

It's the farm implement capital of the world and IBM is pulling its weight at John Deere

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Letter from the Chairman

Fellow IBMers:

Our plans for a management development center at Armonk and an international education center approaching completion near Brussels highlight IBM's continuing commitment to education. This sort of commitment extends to all our people in one way or another, and it is vital to our future.

IBM education takes many forms. It ranges from general career development through the Tuition Refund Program and the Voluntary Education Program, to intensive training on our most advanced systems.

Our investment in education is large, and the reason is plain: We cannot hope to run the IBM of tomorrow on yesterday's knowledge. It is vital for each of us to keep abreast of new knowledge, whatever our job.

The company can and does supply resources and encouragement—but in the last analysis it is up to individuals to pursue their own goals. I'm gratified that thousands of IBMers each year take advantage of the educational opportunities we provide. The future, I am convinced, belongs to those willing to reach out for it.

Frank Cary

A special report on the Telex suit

On the morning of May 14, in the Federal Building in Oklahoma City, Okla., IBM's attorneys presented the key elements of the company's appeal from the judgment of the District Court in the Telex case.

Attorneys for IBM and the Telex Corporation each were given approximately an hour and a half to present the salient points of their arguments to three judges of the U.S. Court of Appeals for the 10th Circuit. These arguments earlier had been carefully set forth by both sides in some 360 printed pages of appeals documents submitted to the court.

Stating IBM's case were: Thomas D. Barr, a partner in the New York law firm of Cravath, Swaine and Moore and IBM's lead attorney during the IBM-Telex trial in Tulsa; and Nicholas deB. Katzenbach, IBM vice president and general counsel. Here, some excerpts from IBM's oral argument.

Nicholas deB. Katzenbach:
May it please the Court, I have in my argument just one simple point to make. It shouldn't be obscured by the complexities of the data processing industry or by the bulk of this record. It is simply and flatly that the Sherman Act, and particularly Section 2 of the Sherman Act, which is the section under consideration in this case, does not prohibit price competition.

* * *

Telex's case totally depends on the correctness of its view of the market and of IBM's market, but it doesn't end there. My contention is, Your Honors, that IBM had a right to do what it did irrespective of market and quite unaffected by the finding of monopoly power.

* * *

The District Court is quite explicit in its interpretation of the Act. I think it's clear that it concluded, as a matter of law, that any pricing action whatsoever which had or was believed or intended to have any adverse impact on IBM's plug-compatible competition was unlawful and by definition predatory. It was the District Court's view that a dominant firm, even in a narrow market created by its own technological innovation, could not, as a matter of law, meet the price of its competitors because by so doing it unlawfully monopolized or attempted to monopolize that market.

Now, starkly stated that's a novel and totally unprecedented view of Section 2, however broad or narrow the market, however long or transitory the period of time of found dominance. Yet, that's precisely the view that Telex expounds and which was adopted by the District Court. That is my single point. A pure point of law.

* * *

. . . IBM took three pricing actions which the District Court found unlawful: the 2319 disk drive, the Fixed Term Plan and the nearly identical Extended Term Plan, the announcement of two new central processing units which incorporated in memory a new technology called FET which cost less than half

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The Telex legal argument is not presented because that would require editorial judgments which Think *believes it inappropriate to make.*

(Continued on back leaf)

Telex suit

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Computers didn't create the privacy problem. But they certainly have intensified it.

So says IBM Chairman Frank Cary in addresses before two Golden Circle meetings early this month.

What is IBM doing about the problem? Cary reports on steps the company is taking to protect not only its customers and stockholders, but its employees, as well.

"We think we can be very open, and accountable, and responsible," he says. "To this end, we are now reviewing every employee bank of personal information in the company."

Privacy, the company, and you 6

The use—and abuse—of personal information stored in computer files is what the current national concern for privacy is all about. In IBM, the largest repository for such personal information is the Personnel Data System, more commonly known as PDS.

What is PDS? How is it used? Who has access to it? These questions are examined. Also, a report on the hour-long sessions being attended by IBM's 19,000 managers who work in the U.S. A typical reaction: "Privacy is an important topic for IBM but one that needs to be discussed a lot more within the company."

PROFILE

World's fastest human 10

On May 11 in Knoxville, Tenn., Ivory Crockett flashed to a world's record in the 100-yard dash, shattering a mark that had stood for 11 years. The diminutive sprinter covered the distance in 9 seconds flat.

What made the achievement even more notable was the fact that Crockett is a businessman who squeezes his training in before and after work.

An Office Products Division salesman in Peoria, Ill., Crockett, 24, went on quota in January and has been an outstanding performer. On the Monday following his headline-making run, he was back at work, calmly accepting the congratulations of other IBMers.

Future objectives for Crockett? He says he wants to keep selling and keep running, and, hopefully, represent the United States in the 1976 Olympics.

THE MARKETPLACE

Business is good in Moline 12

The farm implement business is booming. And with it the fortunes of Deere & Company of Moline, Ill., which for generations has been producing machines to till and harvest.

A reporter visits this longtime IBM customer—it started with a tabulating machine, now has System/370s and System/360s—and interviews its chairman and the people in the Moline Data Processing Division branch who handle the account.

In the Quad Cities, a metropolitan area which straddles the Mississippi, two years of record U.S. farm income have kept the farm implement plants humming, cut unemployment to below the national average, and lent an air of prosperity.

The trend today in the farm implement business is towards larger, more powerful equipment. "And," says Deere Chairman William Hewitt, "farmers are quick to invest in bigger and more efficient equipment as one of the best means to increase their productivity."

Computing costs keep coming down 28

Down, down, down. That's where computing costs have gone in the last 16 years even as the consumer price index has jumped out of sight. During that period, in fact, the cost of doing the same amount of work by computer has declined at a compound rate of 23 percent a year. What does it mean to the customer? He pays about 1 percent of what he would have paid in 1957 to do the same thing.

TECHNOLOGY

Computers in China 18

In China, as in the Soviet Union, the government likes to wheel out its latest advances in technology during parades. Rockets, tanks, planes, spacecraft. Now, it's computers, too. Data processing and the technology that goes with it occupies an increasingly prominent place in the People's Republic of China. While the country's best computer—known as the Model 111—represents that of the U.S. state of the art of the 1960s, the application of computers in modern China has been formidable, indeed. Oil exploration, weather forecasting, railroad bridge design, agriculture—all have been modernized through computer use. And students at China's equivalent of M.I.T. must build their own computers before they can graduate.

THE COMPANY

50th anniversary for the Quarter Century Club 30

This month the Quarter Century Club is a half century old.

The venerable IBM institution,

which now includes more than 11,000 active and retired members in the U.S., had its start in 1924 when Thomas J. Watson, Sr., presided at the first meeting in Atlantic City, N.J.

Since that time, the Club has grown and prospered. Today there are more than 50 local Quarter Century Club chapters around the country and some 3,000 members outside the U.S.

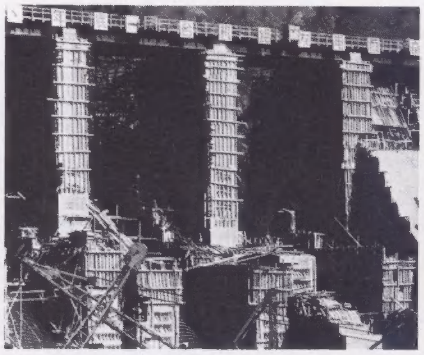
THE WORLD

International corporations —the myths, the facts 36

With IBM World Trade divided into two worlds only two months ago, headquarters for the Americas/Far East in Westchester and headquarters for Europe/Middle East/Africa in Paris have already sorted out their staffs and are well into their new missions. Ralph A. Pfeiffer, Jr., head of the former, is meeting this month with country general managers. And Gilbert E. Jones was reassuring security analysts in San Jose that IBM's worldwide business is continuing strong despite inflation, monetary problems, and political changes overseas.

Meanwhile Jacques G. Maisonrouge, chairman and chief executive officer of IBM World Trade Europe/Middle East/Africa Corporation, in an article for *The Columbia Journal of World Business* urges businessmen to use candor in dispelling some of the potentially damaging misconceptions that are held about international corporations.

He labels these misconceptions "myths." He debunks the four principal ones. And he cautions that such misunderstandings, if allowed to go unchallenged, lend support to protectionist legislation in the U.S., and other forms of economic nationalism abroad.



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INTERNATIONAL
BUSINESS MACHINES CORP.

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NOTES

Dr. Alan F. Westin, a noted authority on privacy, has often spoken to IBM groups on his favorite subject. This fall, the Columbia University professor of public law and government will assume a different role when, as a consultant, he takes a look at the company's internal privacy practices. Frank Cary made the announcement at the Data Processing and General Systems Divisions' Golden Circle meetings in Bermuda.

Dr. Westin served as project director of the National Academy of Science's ground-breaking, three-year study of computer databanks completed in 1972. He co-authored *Data Banks in a Free Society,* a book based on the findings of the study. A year ago this month, Dr. Westin was appointed to the National Commission for the Review of Federal and State Wiretapping Laws. He is also author of *Privacy and Freedom,* published in 1968, for which he received three national awards.

The White Plains, N.Y., Public Library is clearly designed with a concern for people—from the tree-lined plaza outside to ramps and elevators that make it possible for the elderly and handicapped to enter the building from an underground parking area without scaling steps. Among its features: the first IBM System/7 with an application designed specifically for public library circulation and inventory control.

Is a book on reserve? How many people want it? Has it been borrowed from another Westchester library or from the Library of Congress? As soon as a book is checked in, the computer alerts the librarian.

Say a library visitor receives a phone call from his office. The visitor's name is entered into a terminal. When the visitor checks out a book with a plastic library card, a terminal flashes a "patron alert" at the checkout desk to pick up the message.

On opening day, June 3, the System/7 helped check out 1,738 books, and the volume has been rising steadily. "We couldn't possibly handle it without the computer," says Library Director Dr. MayVirginia Valencik.

Two IBM women have been selected as White House Fellows, and will serve a year in jobs at high levels in Federal Government agencies. Their assignments have not yet been determined.

Selected, along with two other women and 11 men, were Betty McCormick and Geri Riegger. Miss McCormick, a native of Dallas, is manager of the Data Processing Division's branch office in Des Moines, Iowa. Miss Riegger, from New York City, is program manager, current products planning, with the Advanced Systems Development Division.

The White House Fellow program selects a number of highly motivated young people of outstanding ability in various fields. It gives them the opportunity to participate in government at the highest levels for a year, working with department heads and top Federal officials.

In a letter to employees earlier this year, IBM Chairman Frank T. Cary disclosed that he had asked for an intensive examination of personnel policies to make certain the company was doing everything possible to protect the privacy of employees. At the same time, he promised to report on the progress of that effort. His first report, which also covers the company's efforts to protect the privacy of its customers and stockholders, was delivered earlier this month in talks to the Data Processing Division and the General Systems Division Golden Circle meetings in Bermuda.

What follows is the major portion of that talk.

Frank T. Cary on PRIVACY

People come to Bermuda, of course, to get away from it all. And that's what I'd like to talk about: the right of the individual to get away—get away from the forces that crowd us; that infringe on the right to privacy.

Almost exactly eight years ago, as you'll all remember, privacy made the front pages when word leaked out that the Federal Government was getting ready to set up a National Data Center—a giant computerized databank that, people feared, would contain everything known about everybody, all at the fingertips of some evil Big Brother.

Time Magazine called the Center a "data vampire." The New York *Daily News* had some fun labeling it "Big Federal Think Fink."

This furor hit IBM. The computer, critics said, had produced a problem. Overnight, privacy threatened to become to us what auto safety was to Ford and GM.

Then what happened? Unfortunately, not enough.

The National Data Center died.

Professor Alan Westin of Columbia wrote some eloquent books on privacy, with which everybody agreed.

And the Congress passed a major piece of legislation—the Fair Credit Reporting Act—which required credit agencies to let you know what they'd found out about you.

But for action, that's about it.

Now, as you know, Vice President Ford is heading up a new privacy committee; but it's just getting started.

Barry Goldwater, Sr., Barry Goldwater, Jr., Congressman Ed Koch, and others in the Congress have introduced a flurry of privacy bills. But they haven't come out of committee.

Senator Sam Ervin has been trying for eight years to get through a bill protecting the privacy of Federal employees.

Nearly a year ago, an H.E.W. task force recommended lots of new legislation; but nothing has yet gone through.

So there the issue stands today.

Now, why spend time here in Bermuda worrying about this problem? First of all, privacy is not a passing fad. It's a continuing necessity. As parents concerned for our children's future, as citizens concerned for our country, I believe each of us must help in its preservation.

Second, the privacy issue is IBM's issue. Data processing didn't create it. Organizations have invaded people's privacy with steel file cabinets and manila folders for years. But computer systems with remote access have intensified both the problem and public concern.

In the past, as you know, we have always felt our special responsibility was for data security—to provide our customers with hardware and software to keep people from getting their hands on information they shouldn't have. In 1972, we launched a major study site effort on this, and we're publishing the results. But on privacy, while we've presented our views from time to time, we've tended to step back in the belief that others should take the lead—professors, politicians, and lawyers.

It's now time to rethink our responsibility. We have got to dig as hard as we can into the tough tradeoff questions.

- What information does an organization have the right to collect on an individual? This is not an easy one to answer. For example, the Senate recently voted to permit schools to require children to undergo psychiatric examinations. One side argued that these tests violated privacy. The other side argued they would produce new information which would improve teaching. That was the tradeoff; and the privacy advocates lost.

- What about access? Should you as parents, for example, have access to your children's school records? On this one, the Senate recently voted yes.
- What about accuracy? Should the individual have the right to change his record?
- And how long should an organization keep that record? One year, ten years, forever?
- Another question: What about transferring information from one organization to another? Should the Congress, for example, outlaw the Government's sale of mailing lists to private companies? Maybe some people *like* junk mail.
- Finally, there is the question of the pooling of information. Should we turn the Social Security number into a universal identifier for every American? This process would permit the linking of all our scattered records and could help create new banks of information for social scientists to study. Or should we ban the use of the number for anything except Social Security?

Those are the key questions that run through most of the privacy legislation on Capitol Hill today. Nobody has final answers to these questions. But we've worked on them within our own company. And we've come up with some principles which seem to make sense, and which, I believe, will help protect the privacy of our employees, our stockholders, and our customers.

On the collection of data—the question of how much data we should collect on an individual—we believe we should run very lean: Collect only the information we clearly need to run the business. For example, we've stopped having outside agencies check the backgrounds of job applicants. We still give tests to measure people's abilities to do programming or repair typewriters; but we have stopped excursions into employees' emotional lives through the use of any personality tests—again a realm of dubious validity and relevance.

On the question of access to information: We believe we should give our employees, stockholders, and customers the greatest possible opportunity to see any information we hold on them. I must admit we've found no way so far to spread out our *Open Door* files or promotability files before employees, or to reveal our salesmen's strategies to customers without impairing the business. But with very few exceptions, we think we can be very open, and accountable, and responsible. To this end, we are now reviewing every employee bank of personal information in the company.

When we collect information on our customers for market planning, we are going to include only information we are willing to show the customer, and give the customer the opportunity to correct any errors, to remove anything confidential.

Another question: How long do we keep information? Unfortunately, as you know, some old information never dies; it doesn't even fade away. To run the business and to give the individual a chance at renewal, we have been building in a systematic method of forgetting old personnel information.

On the transfer of information from IBM to outside organizations, we follow two principles: First of all, we make the questioner prove his need for the information; and then we get the individual's permission. Not long ago, for example, a United States senator wrote in asking for the names and holdings of IBM's 30 top stockholders. He had no subpoena. He would give no purpose for his inquiry, even after we asked. So, given our responsibility to our stockholders, we declined. Now, had he spelled out his purpose, we might well have taken the next step and asked their permission to release the information.

Finally, what about pooling and the use of the Social Security number as an identifier? Well, in the end, the Congress will have to resolve this question. But until then, I believe we should avoid the indiscriminate use of the number. We're taking it off all I.D. cards and all medical claims.

So there we stand on privacy today.

To make our managers aware of their part in its protection we have a Corporate directive on this subject and a short training session which all of them will have taken by the end of this month.

I'm reminded of the old saying that anytime things appear to be getting better, you've probably overlooked something. But I do believe that with these actions, we as a company have made a good start.

It's time now to go the next round.

To this end, we are asking a leading authority on this subject—Professor Alan Westin of Columbia University—to serve as a consultant for us on our own privacy practices.

And we are asking all IBMers to help by bringing to management's attention infringements of personal privacy in their areas of the business; and by refraining, themselves, from any practice which would invade the privacy of others. I believe that together we can uphold the right to privacy within our own business. We can build a body of experience on key privacy questions. And we can share that experience in the continuing national privacy debate. ■

Privacy, the company, and you

When IBM recently announced improvements in its retirement plan, the research on which the decision was based came from the company's databanks.

One computer file was tapped to determine the number of active employees who would be affected. A second databank provided information on the number of present retirees affected, and the extent to which they would benefit.

Similar statistical studies are made by Corporate Headquarters in Armonk for a wide variety of other purposes: from scheduling people for new managers' schools to determining whether employees are being appraised regularly—and following up if they are not.

As an army is said to travel on its stomach, any large organization feeds on masses of information. And much of it in IBM is contained in what is called the Personnel Data System (PDS).

The use—or abuse—of such computerized files containing information on people is a national issue today. Some legislators have even proposed bills of various kinds that would regu-

late personal information.

Armonk maintains a common record for every employee in the U.S. company. PDS—which is actually more than one system—is built like a pyramid. The most extensive files, at its base, are those kept on computers at 21 locations. A portion of this information is for purely operational use at the location and is not made available to division headquarters, which keep a smaller portion of the same information in their own PDS files. At the top of the pyramid, Armonk maintains still shorter records on employees for planning and monitoring purposes, but may also dip down into the larger division files for planning purposes.

A typical division PDS file maintains specific facts such as date of birth, date of employment, number of dependents, and work location. While the total PDS files are the most extensive records of personal information kept in IBM—employee personnel jackets duplicate some PDS data—not all personal data is kept in PDS. Among other files holding personal data are division payroll files and medical records.

For statistical research, Armonk employs still another file that is an abstract of the Corporate PDS file with employee names deleted. A set of statistical programs is used with this file for the planning and monitoring of personnel programs.

An important use of PDS is in manpower planning. "Through PDS, we are able to examine potential manpower skill imbalances and assist divisions in planning the placement of people to maintain our full employment practice," says Kevin Moonan, manager of personnel staff services, who is in charge of PDS. In addition, with the use of PDS, the company makes annual equal opportunity reports as required by the Federal Government.

Who in IBM has access to the personal information stored in PDS?

The answer, for any individual, is his or her manager and the manager's manager. Also, those with a "need to know" can retrieve information from

Washington view

Elliot Richardson on privacy

The public discussion on privacy continues. Since January 1973, five Congressional subcommittees have focused on the subject, and some 280 U.S. senators and representatives have sponsored bills relating to it. This month, former U.S. Attorney General Elliot L. Richardson testified before Senator Sam Ervin's Subcommittee on Constitutional Rights and the Subcommittee on Privacy and Information Systems, which are holding joint hearings on databank legislation. Excerpts from Richardson's testimony follow:

* * *

Public policy about the management of information must embrace three policy objectives: freedom of expression; personal privacy; and the public's right to know. In a free society these three objectives are always in contention, and the challenge to public policy is to strike a proper balance among them. No public policy on the management of recorded information about people can be formulated that will accommodate all three of these objectives if the right of personal privacy is understood as the right to be let alone. Freedom of expression and the public's right to know require trafficking in information in ways that impact on people . . .

In short, the objective . . . should not be to assure that the individual is let alone, but rather to assure that he can participate in determining how he will be affected by the creation and use of records . . .

. . . the primary objective of legislation must be to establish policies to guide the behavior of those individuals who are responsible within the institutions of our society for the collection, assembly, recording, maintenance, use and dissemination or disclosure of information about individuals. Legislation, in other words, should be neutral to—neither for or against—the technology itself. It should not, in my judgment, seek to establish policies, procedures, or standards pertaining to the technology used in information-processing and record-keeping systems, i.e., to filing cabinets, computers, software, terminals, and other peripheral equipment . . .

. . . the legislation should require a full disclosure of the existence, character, purposes, and uses of all record-keeping systems containing records pertaining to people. There should be no exception from such a disclosure requirement . . .

Different safeguard requirements should be provided for administrative records than are provided for records used exclusively for statistical reporting or research. The latter should be made subject to a legislative bar to disclosure in any form that would permit information pertaining to a particular individual to be used in any decision-making situation or proceeding against him. The anonymity of such records should also be secure from any access by compulsory legal process. Conversely, however, in order to assure fulfillment of the public's right to know, statistical records should be available in fully documented form and under suitably secure conditions for independent analysis by qualified individuals or groups . . .

PDS through personnel—but only the specific type of information they are responsible for. People in manpower planning, for example, are permitted access to statistical data that is not identifiable to an individual.

Access to the system is limited to people in personnel who furnish information on request—but only after verifying the legitimacy of the request. Physical safeguards are also built into the system. Those seeking information must have a correct security code, which is changed frequently.

CHANGING GUIDELINES, MANAGER TRAINING

An engineer goes on vacation. Behind him, in an unlocked desk, he forgetfully leaves a confidential report containing specifications for a new product. In the same desk drawer are personal possessions. Does his manager have a right to go through the drawer to remove the confidential material? If he does so, is he invading the employee's privacy?

The answers to such questions are not as simple as they may seem. In this example, the answer is a qualified "yes" since desks, files, and credenzas are IBM property. But the answer might be "no" if the confidential report had been left in a briefcase belonging to the employee. The exact circumstances surrounding each situation are important in determining what should be done.

The fact that these and other questions relating to employee privacy are being vigorously discussed indicates a new spirit of openness toward a subject that is receiving increased public attention. Before this month is out, IBM's 19,000 managers who work in the United States will have received hour-long briefings on employee privacy. After that, the subject will become part of the formal training at both basic and middle management schools. The Corporate personnel department, which is responsible for formulating privacy guidelines is also working with country management outside the U.S. to foster a consistent worldwide company philosophy on privacy.

An informal sampling of reaction to the privacy briefings discloses a high degree of interest and widespread agreement that "privacy is an important topic for IBM but one that needs to be discussed a lot more within the company."

"We're trying to get people thinking about a new subject," comments Ron Sexton, a member of the management development staff at Sands Point, who has conducted several briefings.

In a typical briefing, discussion ranged from an employee's right to ask questions about what is in his personnel file, to the propriety of telephoning or visiting employees at home, to desk privacy. The keeping of informal files on employees by their managers and the use of Social Security numbers as identifiers were other topics that came under scrutiny.

Changing social values, it has become clear, have influenced IBM's approach toward employee privacy. "For many years," one instructor commented, "managers have been encouraged to visit an employee who is sick either at the hospital or at home. Now such visits," he adds, "are occasionally considered invasions of privacy and each must be considered with sensitivity. Our guidelines have changed, accordingly. We're keeping an eye on all matters that deal directly with possible invasion of privacy." ■

How much information do we collect on employees?

Are employees entitled to see information the company maintains on them?

When managers call for employees' jackets, what kind of information do they get?

What information on employees do we disclose to others in IBM?

What about off-the-job behavior? If an employee gets in trouble does the company get involved?

A

The information we've been maintaining on employees for the last several years is minimal, necessary, and acceptable measured by almost any privacy standard. As a general rule, we maintain only that information that is required to run the business or that is required by law. For example, we ask for the birth date of employees. But only because it is needed for IBM and government insurance purposes. We also have to ask about U.S. citizenship, but only to meet immigration and naturalization laws.

Some of it. They may review their personnel files. And, they are asked to check the personal information they provide periodically for accuracy. However, plans for promotion or recommendations for reassignment are not shown since they may unnecessarily raise expectations that might not materialize.

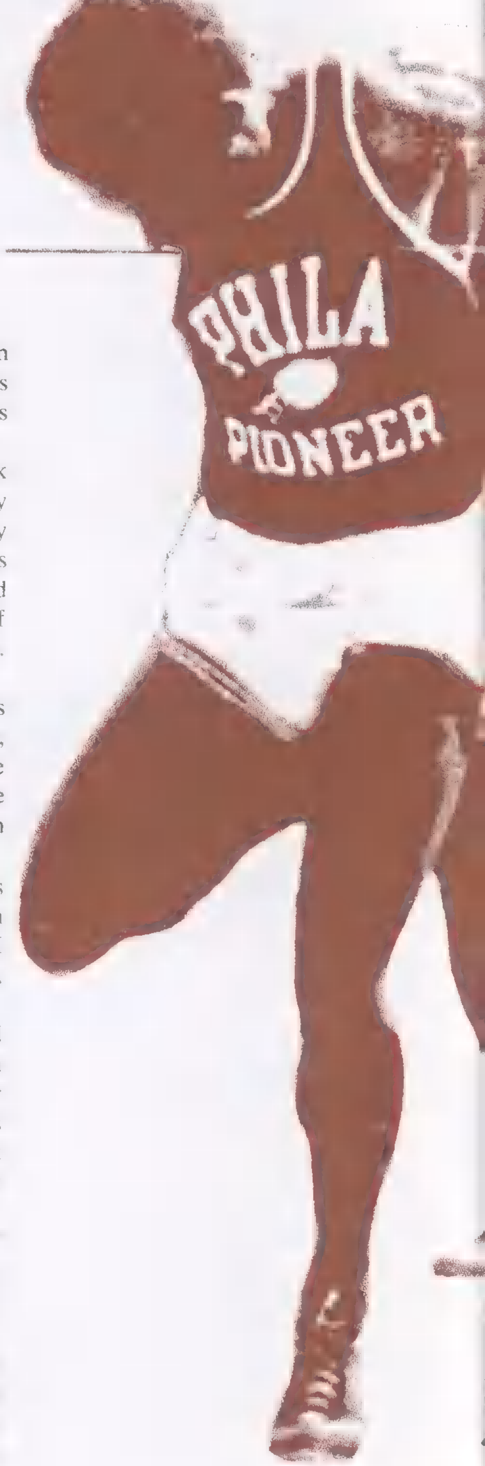
Only job-related information such as appraisals, performance plans, letters of commendation, and records of awards. Personnel keeps a separate envelope holding non-job-related information such as life insurance beneficiaries—which does not go to managers. An important safeguard is that we have retention schedules in place to assure that only current information is kept on file. Employees are asked to review basic information about them yearly to ensure that it is accurate.

Employees' performance records may be sent by their managers to other managers considering employees for promotion or transfer. Non-job-related information may not be given out.

An employee's outside behavior is only of concern when it affects job performance or the reputation of the company in a major way. In other words, we avoid, to the extent we possibly can, any intrusion into people's personal lives. However, where an employee wants help from management, the company is ready to offer its assistance.

Q	A
Is there any consideration of personal privacy when Federal, state, or local law enforcement agencies request information about an employee?	Most requests of this kind come up when an IBMer requires a security clearance for a proposed assignment. People being considered are informed that their backgrounds are under investigation. Any government investigator requesting such information must furnish proper identification and satisfy the local IBM counsel that he has authority to conduct an investigation.
How deeply do we probe into the lives of job applicants?	Five years ago, IBM stopped using an outside organization to make checks on applicants. Last year, we stopped inquiring whether applicants had arrest records or pending criminal charges. We assume what a job applicant tells us is true. If it later comes out that an application has been falsified, that is grounds for dismissal.
How about those management signatures on benefits claims? Isn't that some form of trespass?	Managers' signatures are no longer required on major medical forms, home guaranty agreements, and the designation of life insurance beneficiaries. Since this information is not directly related to job performance, it made sense to eliminate the requirement.
How about medical information? How confidential is it?	No one outside the medical function has access to medical information. It will be provided to employees' physicians with their consent. However, job restrictions resulting from a health problem are communicated to both the manager and the employee, although the nature of the medical problem is not disclosed to the manager.
What about those notices on hospitalization and family deaths: Aren't they an intrusion?	Such information is not distributed without the employee's consent.
Who in IBM is responsible for protecting employee privacy?	Protection of privacy itself is a line management responsibility. Personnel is responsible for developing guidelines and training managers so that they can handle the responsibility of protecting employee privacy. ■

WORLD'S FAS



Office Products Division salesmen are expected to be fast on their feet. But Ivory Crockett is something else.

On May 11, he officially laid claim to the unofficial title of world's fastest human by sprinting 100 yards in 9 seconds flat.

This electrifying performance by the 24-year-old member of the Peoria branch shattered the world's record of 9.1 which was set 11 years ago, and has been equaled five times since.

Crockett's record was recorded in Knoxville, Tenn., at the Tom Black Classic Track Meet sponsored by the University of Tennessee. He raced as a member of the Philadelphia Pioneer Club.

"This was my fifth race of the year," says the 5-foot 7-inch, 145-pound Crockett. "I had a feeling I was going to do well. But a world's record? Man, I couldn't believe it."

After he broke the tape, Crockett continued to trot along the track, not aware immediately of what had happened, enjoying what seemed to him an unusual enthusiasm from the crowd. Then he looked up and saw his time flashed on the scoreboard.

"There were some interviews," says Crockett, "and then I borrowed a dime so I could call my wife, Sylvia."

For Ivory Crockett, the long road that led to Knoxville and a world's record began in Halls, Tenn., where he lived with his family, then went to the St. Louis suburb of Webster Groves where he became interested in track in high school, and by his senior year was one of the two best schoolboy sprinters in the United States.

"In a way," says Crockett, "track was my salvation. I was feeling sorry for myself, bitter because my family was having problems, and my marks were bad, real bad. But then I started running. In the 10th grade, I was one of the best in the 100 and 220 in the state. And I got better." So did his grades.

Crockett went to Southern Illinois University on an athletic scholarship, married a co-ed there, and by the time he finished, in 1973, was ranked the third best sprinter in the nation, tenth best in the world.

"I could have done better," says Crockett, "but I had fallen back on an old habit, feeling sorry for myself. I didn't qualify for the 1972 Olympics, and this affected my attitude."

In August of 1973, Crockett joined OPD's Peoria branch ("My wife's from Peoria, and I wanted her to be near her family because I'm away on meets so much"), and this past January went on quota, selling the full OPD product line in a large, general territory.

"Ivory is doing an outstanding job," says his branch manager, John Roesler. "He is terrifically motivated and self-disciplined."

According to Crockett, joining IBM has finally put an end to the financial problems which have plagued him most of his life. "We never had much

money," he says, "and, despite my college scholarship, I still had to worry about every penny.

"Now Sylvia and I have got a little money, and I think the absence of this financial pressure has helped make me a better runner. It has cut down on distractions."

Roesler, one of Crockett's biggest fans, points out that the young salesman has not had the advantage of specialized training. Crockett's regimen includes running before work, on a road near his house, and in the evening at a track belonging to Bradley University.

What are Crockett's immediate objectives? To continue running (he particularly would like to compete in the Martin Luther King Games in Norway) and to continue to do well as a salesman.

Crockett would also like to run in the 1976 Olympics, but says that being an Olympian is no longer the ultimate goal for him that it once was.

"My world's record will probably be broken some day," he says. "But *I* set it. And that's something I can never lose. If I had to quit track tomorrow, I think I could do it, knowing that, for a while anyway, I was the best."

Certainly, Crockett's colleagues in IBM share in his feeling of accomplishment. When he returned to work after the record-breaking weekend, a big sign had been hung in the office. It said: "Ivory Crockett works here—We're proud." ■

Peoria cares. Here is an editorial from the Peoria *Journal Star* published a few days after Ivory Crockett flashed to his thrilling world's record:

"Ivory Crockett is beautiful.

"The Peorian is not only the fastest sprinter on earth, but also the living end when it comes to practical philosophy. Listen to him saying how he broke the world's record in the 100-yard dash last Saturday:

" 'If you have a goal, you ought to write it down and one day you'll accomplish this goal as long as it's real. That's true whether it's a job or an athletic accomplishment. A goal is what motivates you.'

"Crockett had taken a piece of paper, written 8.9 on it, and tucked it into the toe of his track shoe last Saturday in Knoxville, Tenn. One of four official stop-watches clocked him at that speed, two read 9.0 and the fourth read 9.1.

"The official time was therefore 9 flat, putting Crockett all alone at the pinnacle of the sports world.

"On Sunday morning the *Journal Star* splashed the great news on page one—along with an Associated Press picture of somebody who was supposed to be Ivory Crockett. It wasn't.

"But Ivory Crockett is beautiful. He didn't even mention our gaffe when we interviewed him after he came home.

"More important is what Crockett did Monday morning. He went to work like the rest of us do. And he made another sale for IBM before noon . . ."

TEST HUMAN

Business is good in Moline

It's the farm implement capital of the world and IBM is pulling its weight at John Deere

by Geoffrey D. Austrian

Moline, East Moline, Rock Island, Davenport signals the boarding gate sign at Chicago's O'Hare Airport. Twenty minutes later, Flight 659 angles down toward the rich Illinois farmland where the Quad Cities huddle busily about the confluence of the Rock River and the broad Mississippi. It's five minutes from the airport to the simple John Deere sign marking the handsome Saarinen-designed corporate headquarters of Deere & Company. Here in what is commonly called "the American heartland," Deere directs a $2-billion a year enterprise, $1.5-billion of it in farm implements, throughout the world. While Detroit is struggling with lagging sales, Deere already has orders for all the heavy tractors and combines it will produce this year. And its profit margins, say analysts, are enviable, well above the industry average.

From his office, William A. Hewitt, chairman of Deere, can look across the lakeside gardens fronting his headquarters to the black fields that caused John Deere, a transplanted Vermont blacksmith, 138 years earlier to invent the plow that marked the beginning of the company that bears his name.

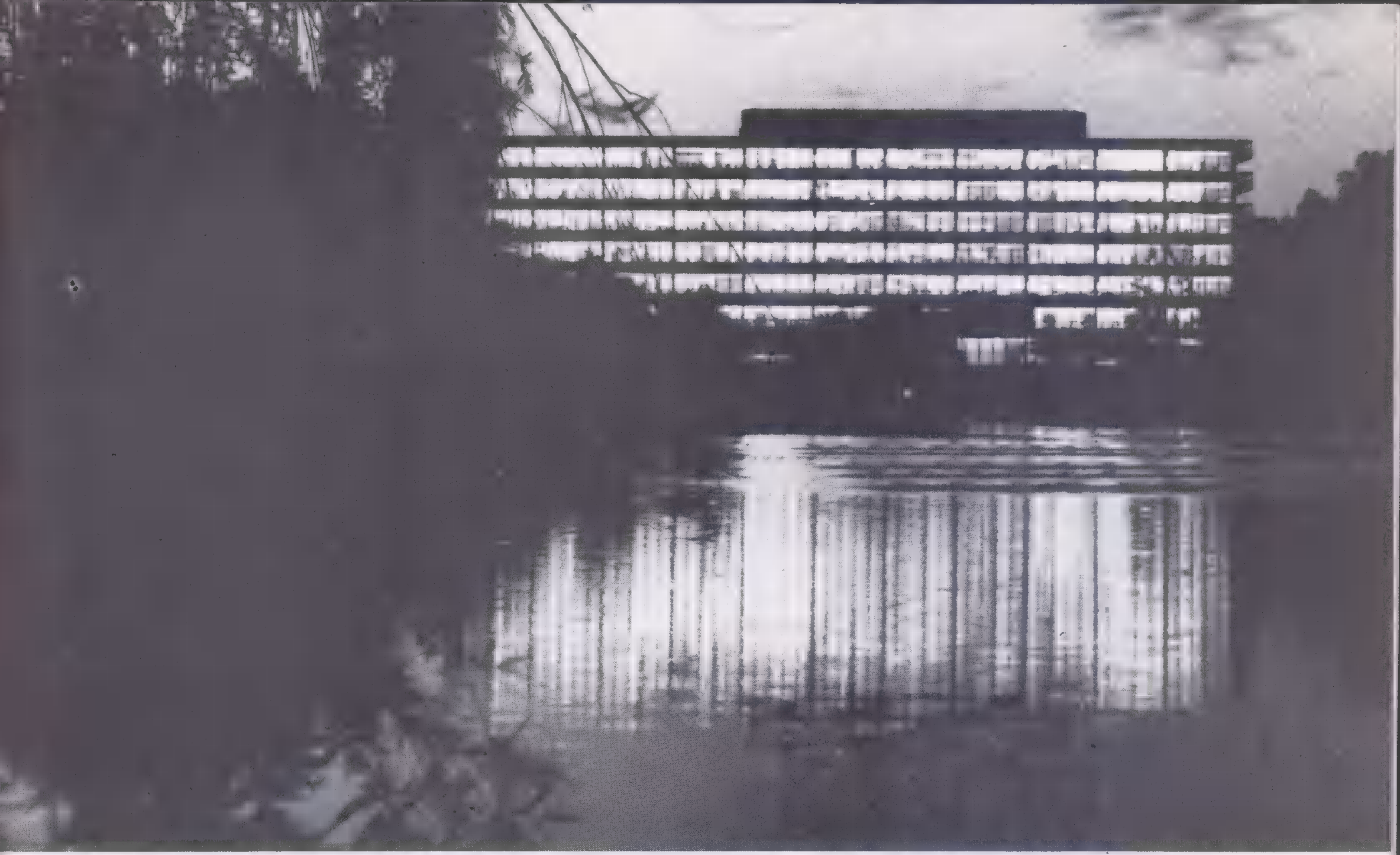
Hewitt warms readily to a recounting of how it all began. "The prairie sod," he says, "had a deep root structure. The first year, the earth plowed easily because the roots scoured the plow clean. But, after the roots were gone, the soil would stick to the plowshare. The farmer could go only a short distance before he had to stop and scrape the soil off with a stick.

Though Deere & Company does business worldwide, Chairman William A. Hewitt is proud of its Midwestern, farm-belt heritage. "One of our strengths," he says, "is that we operate our plants in relatively small communities."

"Blacksmiths worked with anything made of metal in those days—not just horseshoes," adds Hewitt, only the fifth head of the firm since its founder set up a forge at Grand Detour, Ill., in 1836. John Deere soon busied himself hammering out lap rings for chains, welding clevises (the U-shaped pieces of metal found on the tongues of wagons), and experimenting with plowshares. The cast-iron plows, designed to turn sandy New England soil, would not work. And, discouraged, pioneer farmers were thinking of moving farther west, hoping to find soil better suited to their equipment.

Studying the problem, John Deere fashioned a new plow. Its moldboard and share were cut from the smooth sheet steel of an old sawmill blade. The plow not only turned a clean furrow in new land but scoured clean in sticky bottom land as well. Word of John Deere's "self-polisher" spread quickly.

It was the custom to build tools to order. But taking an unusual step, John Deere built plows before he had orders for them and took them out into the country to be sold. Quality steel



Overlooking the Rock River Valley, Deere & Company's administrative center welcomes thousands of dealers, customers, and other guests each year. The steel of the Eero Saarinen-designed building has weathered to the rich dark color of newly plowed fields.

was scarce. So he ordered special rolled steel from England, shipped across the Atlantic by steamer, up the Mississippi and Illinois Rivers by packet boat and 40 miles overland to Grand Detour by wagon. Within 10 years, Deere and a partner were turning out a thousand plows a year. But he was also outgrowing Grand Detour.

"He moved to the Mississippi," says Hewitt, "for more waterpower to drive the pulley belts of his machines." There was also easy transport—steamboats. In a typical year, 15,000 barges, strung out in long tows, still ply the river past Moline. Railroads also came. And Rock Island, one of the Quad Cities, supplied one of them with a name.

Growth came to Deere & Company in the person of Charles Deere, the son of the founder. "John Deere was the inventor, the innovator," says Hewitt. "Charles Deere was the expander. Transportation and communication were slow. There was no such thing as professional management, as it is known today.

"The way to expand was to set up partnerships in communities where you wanted to do business, and by acquiring companies that were successful in other types of farm machinery."

Charles Deere did both. He set up branch houses, which distributed the company's products to the independent retail dealers who sold them. He also added corn and cotton planters, cultivators, and other implements to Deere's growing variety of steel plows. In 1918, under Deere's son-in-law, William Butterworth, the company purchased the Waterloo Gasoline Engine Company at Waterloo, Iowa. And tractors, which were beginning to replace the horses and mules which drew the huge combines, became an important part of the line. Today at the Waterloo tractor plant, one of the world's largest, an IBM System/370 Model 155 controls the flow of some 50,000 parts from receipt, through fabrication, to final assembly. Large tractors produced there are the company's bread-and-butter product.

Though Deere built the plow that broke the plains, the company has not had the farm-equipment revolution all to itself. Two years before Deere's founder headed west, Cyrus McCormick, a Virginia farmer, patented his reaper. Today, plants of International Harvester, the company McCormick started, and Deere factories stand nearly side-by-side in East Moline and a few miles west along the Mississippi toward Rock Island. Toe-to-toe competitors all over the world (Harvester is larger but Deere sells more farm equipment), their combines leave the Quad Cities sharing the same trains.

Growth came slowly at first, but John Deere's initial vision has been amply fulfilled. It took 100 years for Deere to achieve $100-million in volume; ten more years to reach $200-million; another year to gain $300-million. In 1972, Deere became the first company to sell more than $1-billion in farm equipment. In recent years, the company has become fully international, with more than 2,000 dealers abroad and one or more plants in Germany, France, and Spain, Mexico, Argentina, and South Africa. Yet Deere has also remained a peculiarly local company—with eight plants and its headquarters in or within 200 miles of the Quad Cities. With all this growth has it ever thought of moving away?

"We've thought of it from time to time," says Hewitt, gazing toward the river through a tunnel of green. "But you have to weigh what you would have to pay for it and what you might gain.

"One of our strengths is that we operate not only our headquarters but also our principal plants in relatively small communities. In a big city, everyone just fans out and goes in different directions at the end of the day. Here, our people are close to each other and to their communities. They have unusual devotion and integrity and are proud that they work for this company."

Before his guest leaves, the chairman of Deere opens a leatherbound guest book. On one page are signatures of members of the Swedish Parliament and of that country's Minister of Agriculture; on another those of Russian tractor engineers.

"People don't come here for the most part unless there's a good reason for them and a good reason for us," says Hewitt. Since John Deere made his way to the Midwestern heartland more than a century ago, Hewitt and his predecessors have given thousands of customers and others good reason to come.

Steam plowing rigs, such as this, were first introduced on the huge farms of the prairie states before the turn of the century, replacing Percherons, Clydesdales, and Shires. The technological revolution continues in today's farm equipment industry.

Full loaf

In Moline's spanking new Southpark Shopping Center, a slim, pretty girl in a blue-denim apron easily hoists a 30-pound loaf of bread.

It is more than a stunt for the photographer. For local boosterism aside, the 372,000 residents of the Quad Cities, a metropolitan area that straddles the Mississippi, are getting a full loaf these days.

Hank Camferdam ought to know. Besides being manager of IBM's Moline branch office, the lanky Southerner—he hails from Memphis—is winding up a two-year stint as president of the Moline Chamber of Commerce. Wearing his Chamber hat, the 25-year IBM veteran officiated with the mayor and other dignitaries at the opening of Southpark this spring. It is the second such weather-enclosed shopping mall to welcome shoppers within six months. And plans for another one are already well advanced.

Not that Quad Cities residents aren't worried about inflation, the high cost of food, and the flooding of the Rock River (it seems to spill over its banks several times a year and not much is done about it). But the healthy throb of prosperity is felt almost everywhere.

Two years of record income have given farmers money to spend. And they are investing heavily in brightly painted machinery that keeps the area's farm equipment plants humming around the clock.

"Anyone who wants to work can get

Because the farm equipment business is booming, Quad Cities residents are getting a full loaf these days—such as this 30-pounder hefted by Pam Hudson at Moline's spanking new Southpark Shopping Center.

a good job," says Camferdam.

The area's unemployment rate is three percent compared with five percent nationally. At Deere's plants, production climbed an astounding 36 percent last year over a record-breaking 1972. And International Harvester plants in Rock Island and East Moline, and the implement plants of J. I. Case, a division of Tenneco, in nearby Bettendorf, are also running under a full head of steam. Out on a 946-acre island in the Mississippi, once a prison for Confederate soldiers, the Rock Island Arsenal is also keeping pace. The centralization of several Army commands has boosted employment to 8,000, bringing 400 new families to the Quad Cities in the past year.

But prosperity is not entirely taken for granted. "When I got here in 1970, we were in the middle of a slack period," says John Keane, head of the DPD team on the Deere account. "The recession in the farm equipment industry started in 1968 and 1969. And it was late '71 before it began to turn around. There were layoffs at the plants. In a period like that, the farm equipment business is affected very drastically.

"Four years ago," the senior marketing rep adds, "the theme at Deere was how to cut back, how to reduce the costs of data processing. And, we had severe competition from the leasing companies.

"Today, Deere is rapidly building up its headquarters installation. They're adding capacity, just as they are at their plants, to have what they need for the future."

Business is good in Moline, as Branch Manager Camferdam confirms. Last year his office came in at 177 percent of sell plan and installed 199 percent of quota. Its rental base grew by 67 percent and overall growth, for both purchase and lease, was 48 percent.

"We were the first office in the region to make quota," he says. "We made it in June."

Deere is clearly the banner account, but the installation of 40 computers in all testifies that the office did well with other customers. Among the new orders: a police information system for the Quad Cities area.

People in the office take pride in the changes around them. And "growth" still has a positive quality. Jim Crouse, a salesman on the Deere account, grew up across the river in Davenport, Iowa, where his father recently retired after 40 years as a switchman on the Milwaukee Road. As a youngster, he recalls playing ball in a wheat field after the crop was harvested. "That field is full of houses now," he says, "and the city goes on a couple of miles beyond that."

Crouse, who married his high school sweetheart, recently moved his family across the river to a new home in Moline. "Living in Davenport, it took me 20 minutes to get to work," he explains. "That was the longest commute in the office."

Others on the account appear to have a close affinity for both the region and their customer. Tom O'Brien joined IBM in Moline in 1964. A native of Sharon, Pa., near Pittsburgh, the salesman, who has also called on Case, Caterpillar, and Harvester, learned about the farm business from his wife, whose father is a cattle and hog dealer.

John Keane recalls his boyhood in Manning, Iowa, and remembers "admiring John Deere tractors when I was a kid." While in high school, he worked on farms putting up hay, harvesting oats, and cultivating corn. "The leading businessman in Manning in those days was the John Deere dealer," he recalls. "And he still is."

A few years ago, Keane made a decision to stay in the area, though he had also held down jobs elsewhere with IBM. "What I really wanted was a top marketing job handling a large account," he says. "I think Deere is our best large account. I'm hoping to make a career out of representing IBM to Deere."

John Keane, head of the DPD team on the Deere account, admires a gold plow that earned his customer 12 awards at international expositions starting in Chicago in 1893. He remembers admiring Deere tractors as a youngster in Manning, Iowa.

It was hardly a parochial decision. This fall the account leader plans to visit Deere's European Headquarters in Mannheim, Germany, where "they are planning to put a central computer facility and run all of their plants and branches and depots via terminals coming into that center. They are attempting to duplicate what they've done in Moline."

There is good reason why IBMers feel at home in Moline. Says Hank Camferdam: "Deere is kind of like IBM. They have quality products. They believe in quality service. They probably have the best dealer organization of any farm implement company. They are a leader of the industry."

A man with two hats, Hank Camferdam, manager of IBM's Moline branch office, leaves the Moline Chamber where he is rounding out a two-year stint as president. His branch was the first in the region to make the Hundred Percent Club last year—in June.

OLINE CHAMBER OF COMMERCE

YOU NAME IT, DEERE RUNS IT

When the demand for farm equipment suddenly shot skyward two years ago, catching much of the industry by surprise, Deere & Company was better prepared than most other firms to meet it. One reason, according to *Business Week* magazine: the company's highly sophisticated econometric models came closer to forecasting demand than anyone else.

The forecasting of farmers' incomes takes up only a minuscule fraction of the processing time of Deere's centralized computer utility, an array of gray and white IBM systems on the ground floor of the company's seven-story headquarters building. On a typical day, the computer center processes some 4,000 jobs on demand for Deere factories, sales branches and depots, and services some 2,300 dealers from Welland, Canada, to Monterrey, Mexico, sending out 15 million print lines a day over an extensive teleprocessing network.

What kinds of jobs? "There isn't any one main thing we do," says Robert A. Bulen, Deere's director of data processing services. "We're heavy equipment manufacturers. We're wholesalers. We run finance enterprises and insurance companies. So it's difficult to pick out any one thing. Choose almost any application, and you can say that we are running it."

Deere's data processing capability has grown up as naturally over the years as fields of the wheat, corn, and barley that its implements plant, cultivate, and harvest. Tabulating machines were first installed in 1937 for corporate accounting. And soon after that for production and inventory control at Deere plants. Then came IBM 650s, 1401s, 7000 series equipment, and System/360. A major decision was made in August 1968 to provide centralized data processing service for locations throughout the United States. Since then, most processing capability has been centralized at company headquarters, although factories and other major locations have a good deal of latitude in developing their own applications.

The central installation includes a System/370 Model 168, two System/370 Model 155s and a Model 145. A second Model 168 is currently being installed and a third is planned as backup, in case of disaster, at a separate data processing center in downtown Moline. Fifteen System/360 Model 20s and 25 IBM 2922s serve as remote job-entry terminals at plants, sales branches, and depots across the country.

Among current uses:

- The largest group of applications is in production for keeping track of orders; inventory planning; shop scheduling and floor control; shipping and warehouse analysis; and even for calculating incentive payments for production employees. "Today you have to keep very close records of who the retail customer is," says Bulen. "In case there are any defects or recall programs, we must be able to get the machine back. We have a very stringent responsibility."
- Because Deere emphasizes customer service, which means keeping farmers' equipment running, it is improving parts distribution to dealers who maintain their own repair shops. During the day, dealers record parts transactions on terminals. At night, the center polls the terminals and pulls the data off. So far, 160 dealers have installed terminals, also used for processing orders. Soon, Deere will enable dealers to do their own accounting on the central system, using IBM 3741 terminals.
- Besides corporate accounting and payroll, Deere insures its own benefits programs. So it performs centralized processing of health and accident policies, keeping track of payments to doctors, drugstores, and hospitals.
- Dealers often finance the purchase

of farm equipment through the John Deere Credit Company which accepts customers' notes and keeps track of monthly or annual payments. The company, which does a $700-million volume has only one part-time and two full-time employees (headquartered in Reno, Nev.). The rest of the business, says Bulen, is on Deere's central computers.

Not all of Deere's data processing operations are centralized. The company's Waterloo, Iowa, plant, one of the largest tractor plants in the world, runs its own System/370 Model 155 to control virtually every aspect of manufacturing: from keeping track of customer options, such as air conditioning and choices of transmissions and tires for tractors, to directing components and parts to assembly points at the right time and quantities, to issuing over 100,000 purchase orders each year. And at a new John Deere foundry in East Moline, a System/7 controls power demand for four electric arc furnaces in the smokestackless building.

Deere, which invests heavily in research for its own products, appears as eager to harness the potential of new IBM equipment and methods to streamline its operations. The result, as a management consultant recently pointed out, "has been the development of a computer and communication resource of enormous business potential." ■

Outlook

Once there were farm surpluses. Now there are farm shortages. The forecast: sustained demand

When depressions hit the farm, they generally come earlier, run deeper, and last longer than anywhere else. That's why seasoned farm experts, whose memories run back to the Great Depression of the Thirties when Henry Wallace was slaughtering little pigs to keep up the price of meat, or even to the recent farm recession years of 1967-'68, find it difficult to believe that farming may finally be breaking out of its historic "boom or bust" pattern.

But evidence of fundamental change is growing. With worldwide competition increasing for raw materials of all sorts—from oil to metals to wheat and soybeans—the time of cheap food, and even of ample food supplies, may well be over.

It's not all bad news, of course. Seldom before have America's farm resources and know-how been fully tapped. And, for the first time since early New Deal days, the government has switched its policy from strict control of farm production to putting more land into gainful use. The country's vast agricultural resources have already been credited with creating a favorable balance of trade for the first time in many years. And in a period when the supplying or withholding of commodities has taken on political overtones, it has been noted that the U.S. and Canada control a larger share of the world's exportable supplies of grains than the Middle East does of oil.

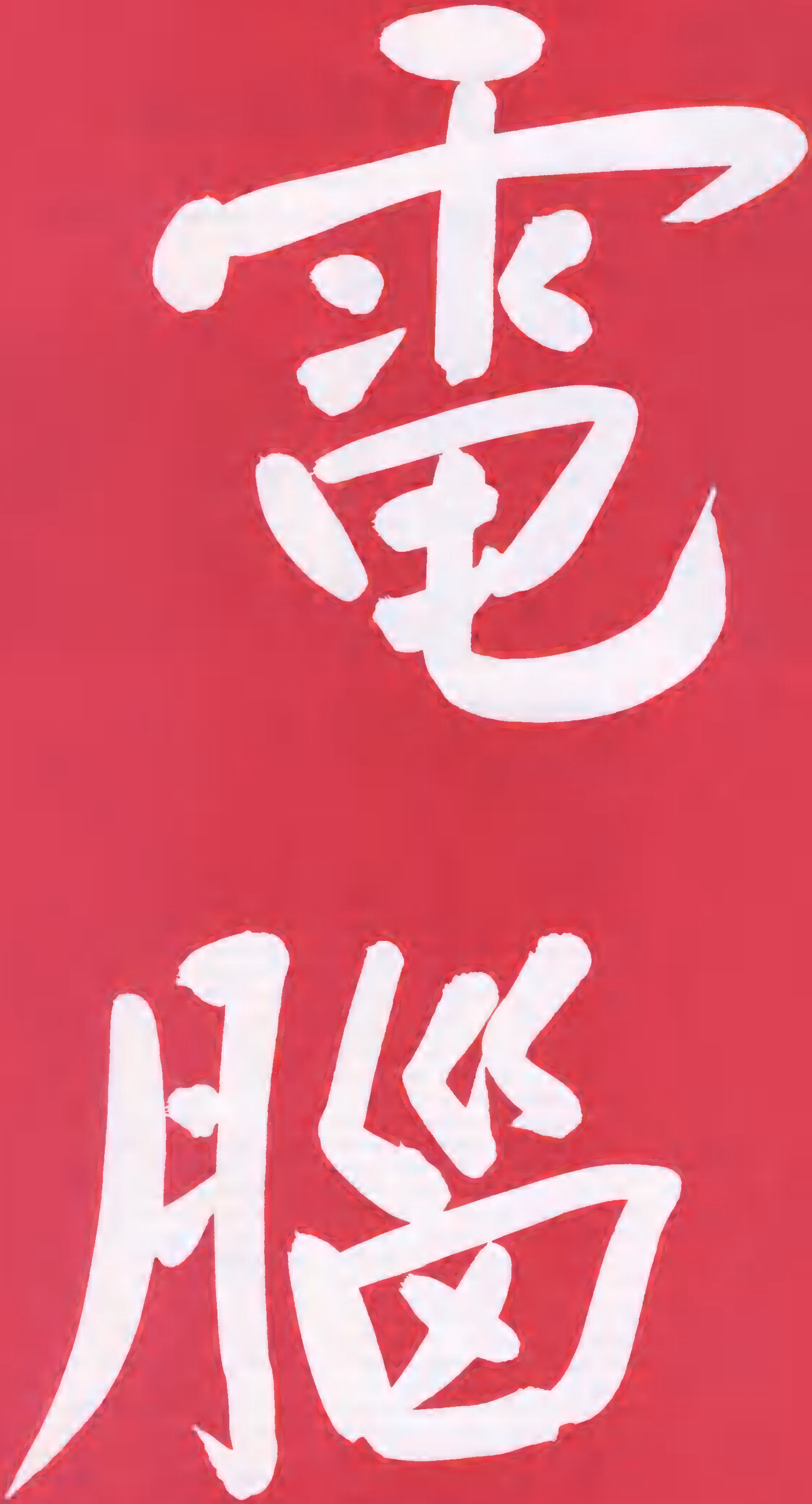
For the farmer himself, both profits and costs are rising. Cash receipts—the income a farmer gets from sale of farm products—jumped 37 percent last year, with a quarter of his income coming from abroad. But, like the rest of us, he is also beset by rising costs. He has to pay more for fuel, fertilizer, labor, and farm machinery itself.

Hitched solidly to soaring worldwide demand for food, the farm equipment industry is going flat out to fill orders while struggling to add plant capacity. Among the full-line manufacturers of farm equipment are Deere & Company; International Harvester, which sells more trucks than farm equipment; Massey-Ferguson, a large Canadian-based company; and Allis-Chalmers. Other companies important in special areas include: White Motor; Ford Motor, an important producer of tractors; and Tenneco, through its J. I. Case division. Also Sperry Rand, through its New Holland division, and Hesston Corp. Shipments of farm equipment by all manufacturers reached an estimated $5.3-billion in 1973, a 15 percent gain over the previous year.

Down at Deere's harvester works in East Moline along the Mississippi, about 70 elephantine combines—the largest can harvest about 8.5 acres or 1,200 bushels of corn an hour—leave the plant every day. Even so, Deere and other makers of heavy farm equipment have been unable to meet current demand and have placed dealers on allocation for many products. If Deere were to stop taking orders today, it would, in fact, take a full year to build dealer inventories back to suitable levels.

Will this situation continue? Or will the industry revert to its traditional up-and-down cyclical pattern? While Deere has diversified into other lines, such as industrial equipment for road-building and construction, its chairman, William Hewitt, believes the industry is in the early stages of a period of great sustained agricultural growth.

Recently, the executive sent one of his daughters, a Dartmouth freshman, one of his 10-year-old speeches to help her with a paper on the food and famine problem. "The population I quoted then was 3.2 billion," he recalls. "Now the world population is about 3.9 billion. And it's growing most rapidly in the countries least able to increase their food production. For as long as I can remember surpluses were our problem. Now shortages are."


電
腦

The characters? They spell computer. The literal translation: electronic brain. The Chinese are well into solid state technology.

by Lee Edson

In Peking's T'ien An Men Square the usual clamorous National Day parade marked the 21st birthday of the Chinese People's Republic. As Chairman Mao beamed from the terrace of the Gate of the Heavenly Peace (where in 1949 he had announced the liberation of China) some 500,000 people streamed past, banging gongs and drums, chanting Mao slogans, waving red flags, and dragging huge poster-draped floats. Applause, shouts, smiles, and popping firecrackers greeted the marchers. TV cameras from many nations videotaped the proceedings.

For a while, it looked like a rerun of past parades, until, suddenly, a huge float appeared portraying a massive computer console. It was followed by an oversized crucible of the type used in making silicon semiconductors—a key element in computer circuitry. Alongside, marched hundreds of workers in open shirts, each carrying a large bar of transparent plastic to represent a silicon crystal. Thus in 1970, on China's biggest holiday of the year, the nation was proudly emphasizing to the world the importance of her new home-grown computer industry and her swift entry into the circle of high-technology nations. Symbolically, jets streaked overhead while the first Chinese satellite, launched earlier that year, orbited the earth, emitting to hand-held radios the metallic notes of the Chinese popular revolutionary song: *The East is Red.*

A year and a half later—shortly after President Nixon's historic trip had opened up the first U.S.-China dialogue in two decades—the Chinese again had occasion to demonstrate the high priority they have assigned their plans for the computer's future. In its first invitation to an organized technical group from the U.S., the Academia Sinica (the Chinese Academy of Sciences) invited a team of U.S. computer experts to see for themselves what the Chinese were doing in the computer field. "We were surprised, no doubt about it," recalls Professor Thomas Cheatham, Jr., of Harvard, a member of the group that visited in 1972, "not just at the extraordinary attention we received from high officials when we arrived, but at the fact that the Chinese had gotten as far as they did in computers with little outside help. In fact, the Chinese had built third-generation computers with their own integrated circuitry." Another member of the delegation, Professor Alan Perlis of Yale University, was impressed with "the Chinese ability to develop a transistor manufacturing technology so rapidly—in effect, taking a neighborhood factory that made window handles, and in three years, training its workers in operation of a high-precision semiconductor assembly line." The Rand Corporation—a leading U.S. think tank—which made a special study of Chinese computing, has added that the Chinese achievements are "impressive" but cautions against overreaction.

As Cheatham, Perlis, and their colleagues discovered, the Institutes and associated factories in Peking, Shanghai, and Shenyang are the main centers of China's computer research and industry. In Peking they found that the computer being fashioned at the 1,000-man Institute of Computing Technology—the largest organization of its kind in China—was a fairly fast machine with a large memory, supporting a host of modern, if not fancy, pieces of peripheral equipment, including a cathode ray tube display, magnetic and paper tape drives, and printers. A noted American scientist who visited China a few months ago concluded that this computer—known as the

電腦

Model 111—is the best computer China has to offer at present, but that it represents the state of the computer art in the U.S. of the 1960s.

China has not announced the number of digital and analog computers it manufactures each year. Estimates range from 100 to 300, with nine different models in use, obviously far fewer than the number of computers made in the U.S. This isn't much for a nation of 800 million, but numbers are not everything when it comes to evaluating the status or potential of a fledgling industry. "The Chinese," says Cheatham, "don't have time-sharing. They may not have phone linkups, multiple usages of computers, and other modern wrinkles, but they are fully aware of the latest technology. I gave a lecture at the University of Peking on our newest computer techniques and many students asked the right questions. Obviously, the Chinese do read the latest computing publications."

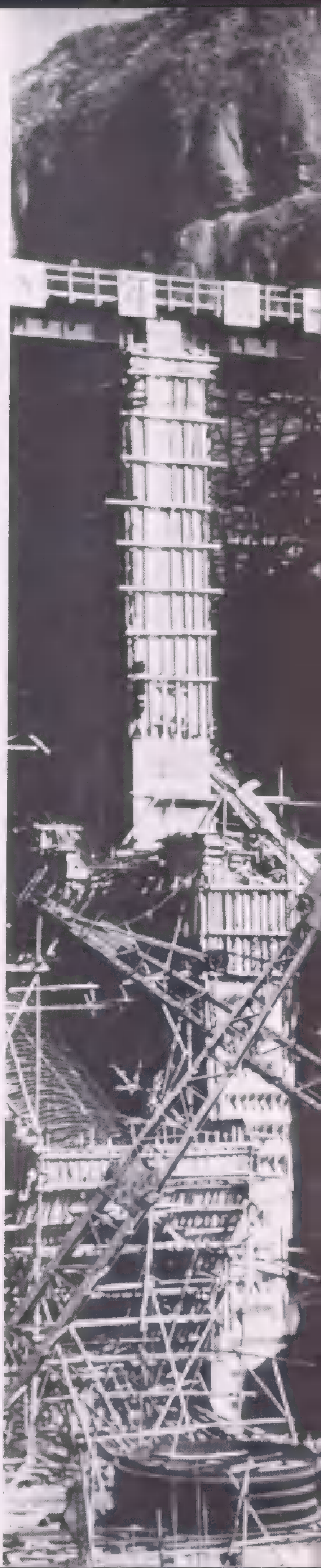
The Chinese, however, seem to have distinct thoughts about the role of computers in the "socialist construction."

"At present, many units and departments throughout China are installing various types of completely functional computers designed by China's own engineers and produced from China-made parts," proudly writes Yang Tzu-Ch'iang in a leading Chinese magazine. ". . . The application of computers has made a great contribution to the modernization of China. . . . When the workers of . . . Ta-ch'ing Oil Field in Manchuria studied strata and planned developmental operations they used computers to attain a clear understanding of underground conditions. . . . All the railway bridges in China are designed by computers . . . stress analyses of large dams can be rapidly solved (with computers)." Other uses include "product design for large electrical machinery . . . and the national movement of commodities. The high altitude atmospheric forecasts broadcast by China's Central Weather Bureau are calculated by computer."

China also uses computers in scientific research. For the first time with the help of computers, China has been able to compile her own astronomical calendar. Computers are also used at the Purple Mountain Observatory outside Nanking to track the movements of heavenly bodies. Earth-oriented Chinese computers have gone to work to ascertain the complex structure of a variety of medicinal herbs—China's oldest medical staples—and to correlate them with physical effects. One observer from the U.S. commented that the Chinese, though knowledgeable in theory, are paralleling the U.S.'s practical direction in the early Fifties, when the first IBM computers were being used mainly as controls to automate the petroleum, aircraft, and other heavy industries.

China's advances in computing are paralleled by her efforts in many areas of modern technology. Dr. Raphael Tsu, an American computer scientist and a recent visitor to China, reports seeing such heavy machinery in Shanghai as a 12,000-ton hydraulic press, said to be one of ten in the world; a high-temperature, high-pressure turbo generator of late design capable of delivering enough power to light a city; and the latest vacuum refining, extruding, and milling machines. He found well-advanced automation in the oil refineries—there is no energy shortage in China, incidentally—and he also reported that shipyards were turning out 20,000-ton vessels with automatic navigation equipment.

To add to this picture other reports describe huge metallurgical complexes and factories throughout China, with one huge iron and steel complex being developed in Manchuria. In addition, the Chinese recently asserted in the *People's Daily*, China's party voice, that they are currently "leading the world in high voltage line maintenance technology." A U.S. executive who came back from China a month ago sums up Chinese technology somewhat differently. "China," he says, "has a prototype of almost everything in the world from giant earthmoving bulldozers to laser-controlled tables for precision machining to a Boeing 707. The country is simply gathering experience in how they all work. When it is ready to go into major manufacture, it



A modern dam in China is made possible with the help of computer stress analysis, reports writer Yang Tzu-Ch'iang in a leading Chinese magazine. This is only one of many current industrial uses of computers in China.

Each double-decker train at the railroad station in Shanghai has not only a conductor (or ticket collector) and a carriage service attendant (or porter), but also a woman attendant, who is assigned to each carriage to assist the passengers. Currently, 90 percent of China's locomotives are steam powered, but the trend is toward more efficient diesels and electrics, such as the one shown.

電腦

will really burst forth."

That China is capable of sudden and dramatic flowering is demonstrated by the high technology areas (such as modern aircraft, nuclear energy, and electronics) where China under Mao has made some spectacular gains. Chinese physicists are now working with controlled hydrogen fusion, using laser beams to produce the high temperatures required. China, which has the services of H. S. Tsien, once one of the leading figures in rocketry and jet propulsion in the U.S., is the fifth nation to launch her own earth satellite.

China's first computer was built in 1958, and her semiconductor industry began to go into full operation in the 1960s, with factories springing up in association with the country's major research institutes and universities.

Today, self-reliance—which Mao calls "walking on two legs"—is the remarkable concept that continues to advance technology in China. Even the users of computers get no spare parts and special instructions—as they do in the U.S.—because it is expected that each user will learn how to do things for himself.

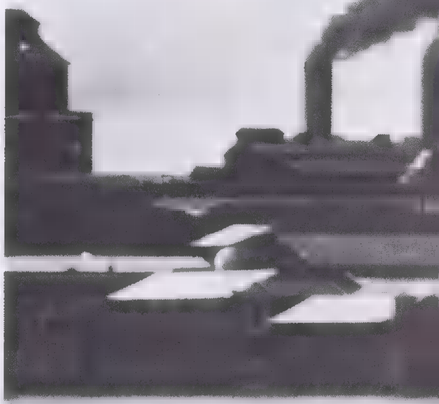
This do-it-yourself conditioning begins in the schools, which were reorganized in 1966. At Tsinghua, for instance, which is China's M.I.T., the students must build their own computers before they can graduate. These computers actually go into service and the money they make supports the college. Tsinghua also has a student-run machine shop that makes 800 milling heads a year for distribution throughout China. (At Peking University the students operate a pharmaceutical house that nets one-third of the University's income.)

Tsinghua represents the approach to the new engineering education, which China hopes will mark a new Great Leap forward. To see the new education in action, recall that Tsinghua had close to 12,000 students in 1966, when the Cultural Revolution ordered that no new students be admitted. The title of professor, incidentally, is the only academic title that remains, the hierarchy of ranks have been abolished along with those in the Red Army.

The present crop of students comes from the workers, peasants, and soldiers, instead of the middle class. Each student has to work on the land, or in a factory for two to three years before he or she can apply to the university. Student selection is based in part, in addition to their grades in middle school, on how determined they are "to serve the people." About 25 percent of the students are women.

The student takes no examination. If a student fails a course, it is regarded as the fault of other students who haven't helped. Usually two students take notes in a lecture, and then discuss them with the other students. As a leading Chinese scholar put it: "Teachers teach students, students teach each other, and sometimes students teach teachers."

While it is too early to tell whether this approach will eventually strengthen China to the point where it overtakes the rest of the world, one thing seems to be clear—the Chinese apparently have found a direction in technology which is rapidly changing the way of life of their own country. ■



Lee Edson, a distinguished science writer, has authored three books and numerous articles for The New York Times Magazine *and other periodicals. A onetime program manager and consultant at the Stanford Research Institute, where he monitored new developments in science and technology, Edson has traveled widely, especially among the developing nations. One of his books—*The Wind and Beyond*—with the late Dr. Theodore von Karman of the California Institute of Technology, relates how the Hungarian-born aeronautical scientist, far back in the 1930's, sparked the present-day concept of Chinese self-development in science and technology.*

SHAVER STARBRO
SHAVER

Pakistani poultry is unloaded at Shanghai Airport. This busy airport is said to handle planes from every country in the world.

Sampans sail past a chemical factory—symbol of China's growing industrialization. Many Chinese industries now use computers in process control.

China's technology is one of civilization's oldest. The 1,500-mile-long Great Wall, the largest man-made structure, was built 2,000 years ago. Observers have noted that the Great Wall—which required the labor of one million men—stood as the world's greatest administrative engineering accomplishment until the Apollo junket to the moon.

Morning rush hour on Changan Boulevard in Peking. The bicycle is China's major mode of urban transportation. Automobiles number less than a million at present, all owned by the state.

In the May 1974 issue of *Harper's*, a 4,500-word article, *'IBM ON TRIAL— Monopoly tends to corrupt'*, by William Rodgers. In response

Frank Cary writes a letter to the editor of *Harper's*

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in many instances demonstrably false.
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The following letter to the editor of Harper's *appeared in that magazine's issue of June 1974, and is printed here in its entirety.*

William Rodgers' "IBM on Trial" [May] is blatantly misleading and in many instances demonstrably false. In addition, it draws conclusions about IBM and the data-processing industry that are contradicted by the findings of the two federal courts that have examined IBM's position in the industry.

Certainly, IBM and its legal affairs are proper subjects for public commentary. And I believe IBM is mature enough to accept critical points of view. However, I must object when a writer chooses to support his personal opinions with strident denunciations that contradict, misrepresent, or willfully ignore facts that are a matter of public record. For example, IBM has had two trials. IBM won one and lost one and successfully prevailed in four efforts by competitors to enjoin certain IBM practices. All those were brought under the antitrust laws. But Mr. Rodgers mentions only the one IBM lost.

The article's errors and omissions are pervasive; the following specific examples should give your readers some idea of how they were misled:

Statement IBM is a "monopoly" in the computer industry, an "undisputed colossus." In a similar vein, Mr. Rodgers quotes unnamed "surviving competitors" as saying that the "IBM empire" is "too immune to the restraints of power, too dangerous and ruthless to be tolerated in the social and industrial community."

Fact

The only two federal judges who have passed on the question have concluded after trial that IBM does not monopolize the computer industry.

Judge A. Sherman Christensen in the *Telex* case decided—in a ruling IBM now is appealing—that IBM had monopolized a narrow market defined as "peripheral devices plug compatible with the CPU's (computers) of IBM." However, Judge Christensen also concluded the following about IBM competitors and IBM's position

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generally in the computer industry: ". . . competitors include many large diversified companies with important skills and substantial financial resources, and many competitors are strong, independent and growing. . . . Between 1952 and 1970 the number of competitors in the EDP industry multiplied more than 136 times from 13 to 1773. . . . Broadly defined the EDP industry appears competitive and dynamic."

Judge Walter E. Craig, in dismissing the *Greyhound Computer Corporation* suit in July of 1972 after eight weeks of trial, found that IBM was not a monopoly and that "the defendant's place in the industry has been achieved as a result of superior skill, foresight and industry. . . . There is no evidence of any attempt to monopolize on the record."

Statement IBM "probably commands 75 to 80 percent of the computer business in the United States. . . . IBM concedes that it gets perhaps 35 percent of the industry revenues, but the courts and its competitors scorn that unsupported estimate as nonsense."

Fact

The 35 percent figure is not IBM's, and it is not an "unsupported estimate"; it was a result of a court-administered industry census. In the *Telex* decision, the only one which dealt with percentage figures, Judge Christensen did not "scorn" the 35 percent as "nonsense." He specifically found that IBM's share of industry revenue was "35.1 percent in 1970."

Statement Computer divisions of Philco, RCA, and General Electric were "demolished" in "unequal combat" with IBM.

Fact

The computer divisions were not "demolished" but, as Judge Christensen found, were acquired by Sperry Rand-Univac and Honeywell, whose competitive positions were "enhanced" by these acquisitions. And the Philco-Ford computer divisions recently reported electronic data-processing revenue in 1972 of $79 million in [illegible] computer-industry census.

Statement In 1913 Thomas J. Watson, Sr., was "exempted" from serving an antitrust sentence "after the court ordered a second trial."

Fact

In 1913 Mr. Watson was indicted and convicted along with many other officials of National Cash Register Company, but Mr. Watson's conviction was reversed by the court of appeals. The government then proposed a settlement; Mr. Watson rejected the offer, and the government dropped the case against him. He was not "exempted" from serving a sentence; he won the case.

Statement "Coincidentally, IBM announced that it intended to market an improved version" of Control Data Corporation's Model 6600, but "never manufactured" it.

Fact

IBM never announced "it intended to market an improved version" of the CDC 6600. Two years after the announcement of the CDC 6600, IBM did announce a model of the System/360 that was more powerful than the CDC 6600, and IBM manufactured and delivered a number of them.

Statement IBM settled with CDC "out of court by giving Norris one of its subsidiary companies and cash amounting to $110 million."

Fact

IBM did not "give" CDC a subsidiary or $110 million in cash. The actual terms of the mutual settlement (IBM had countersued against CDC for antitrust violations) were: CDC *purchased* an IBM subsidiary for $16 million. IBM agreed to provide $2.6 million per year for ten years to assure the employees of that subsidiary (its former employees) their full, existing fringe benefits. IBM agreed to purchase from CDC $4.8 million per year of EDP services and $6 million of research and development work per year for five years. In addition, $15 million of CDC legal fees and expenses were paid by IBM.

Statement The Justice Department "hopes to apply an old measuring rule, which holds that competition is stifled when three or four companies carry off 50 percent or more of any category of business. IBM is prepared to plead that it is being discriminated against, that the old measuring rule is invalid, dishonored by numerous exceptions."

Fact

Nonsense. There is no such rule and never has been.

Statement Mr. Rodgers characterizes Berton Hochfeld, whom he quotes at length, as one of the "architects" of IBM's so-called "price-cutting structure" who "designed the price cuts," thereby accomplishing "for IBM the job he was required to do."

Fact

Mr. Hochfeld worked for IBM for just over two years after he finished his schooling. He was one of the hundreds of "financial analysts" at IBM and never held any kind of managerial position. Mr. Hochfeld conceded under oath that he was never responsible for setting any prices on any IBM products. Furthermore, Mr. Rodgers does not reveal that Mr. Hochfeld, after leaving IBM, worked as a paid consultant and witness for Telex.

* * *

Mr. Rodgers has taken up the cudgels of a few of IBM's competitors and ignored the unprecedented product and price improvements in computers passed on to consumers by the intense competition in the industry. That he is free to do, but we believe your readers and IBM should not be abused and misled by Mr. Rodgers' demonstrable distortions.

—Frank T. Cary
Chairman of the Board, IBM

Rodgers' response

The following, in its entirety, William Rodgers' answer to Frank Cary's letter in the June Harper's. *©1974* Harper's.

On the basis of Mr. Cary's critique of my article, one could develop an Orwellian thesis that corporate innocence flourishes in proportion to the magnitude of litigation against it.

Unlike Mr. Cary, *Harper's* readers will doubtless see my article as an examination of his corporation rather than as an attack against it. If he and his colleagues will look again, they will find that it was the failure of American law and government that I primarily criticized. It is the failure of government to at least restrain predatory power that has put the government in complicity with corporate power.

I am very sorry I imputed to IBM people I interviewed loftier managerial status than they deserved. I would have identified Berton Hochfeld as a consultant to Telex had I known he was one, so that readers could assess the validity of self-serving comments. My oversight of this fact is criticized by Mr. Cary, and appropriately so.

Whether or not the late Thomas J. Watson, Sr., "won" his antitrust case after conviction in 1913 is highly questionable. This case is recounted fully in my book *THINK,* soon to be reissued in an updated paperback edition by New American Library. Certainly it is fair to say that he won exemption from serving a sentence when, three years after he had been fired from National Cash Register Company, the case simply withered away through a *nolle prosequi,* meaning the prosecution simply dropped it. I don't want to deprive Mr. Watson of any victory—if that's what it was.

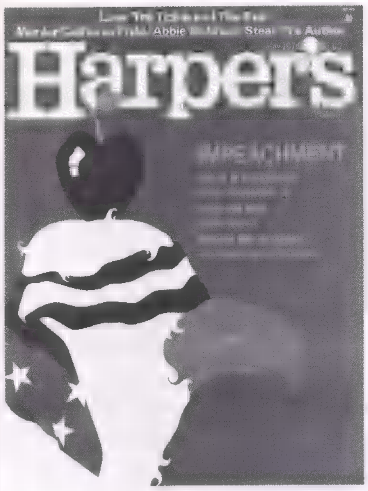
Mr. Cary says computer divisions of Philco, RCA, and GE were not "demolished" in "unequal combat" with IBM but only "acquired" by other corporations. This is slicing language close to the bone. Demolition by acquisition is not uncommon. And if any company's position was "enhanced" in the process, it was IBM's.

The reference to a "measuring rule" cropped up in old antitrust and monopoly studies. As I explicitly stated, it never amounted to doctrine. Perhaps I need not have brought it up.

It is quite true that I did not dwell on the laudatory things said in the courts and other forums about IBM over the years. I did not purposely omit them as a literary technique to make IBM look wicked. My essay was an account of IBM on trial, not of its virtues.

As for the question of whether IBM gets—or commands or controls—75 percent of the computer-industry market or, as it claims, 35 percent, that is surely an issue to be determined in the government antitrust trial headed for resolution. There are many different markets in the industry. What is in question is the extent to which IBM's share of these markets gives it monopoly power and how that power is exercised.

For there is indeed an IBM empire. The company is, in fact, the undisputed (except by IBM) colossus of the industry. And it has the power, however achieved, to destroy most competitors at will. What the courts and the government will do about this, if anything, remains to be seen.



Digest of a critic's view, from *Harper's*

"In the constellation of multinational corporations, one illuminates the economic firmament more than any other. It is International Business Machines, whose 575,000 stockholders early this year owned 146,061,750 shares with a sale value even in a depressed market of $36.5-billion . . . Measured by its revenues, IBM ranks sixth in the United States. No one knows for sure—only IBM itself has the confirming or refuting data—but the company probably commands 75 to 80 percent of the computer business in the United States and more than half of the world market. IBM concedes that it gets perhaps 35 percent of the industry revenues, but the courts and its competitors scorn that unsupported estimate as nonsense."

Thus, William Rodgers begins his article in the May 1974, issue of *Harper's* Magazine entitled "IBM on Trial: Monopoly tends to corrupt."

Rodgers several years ago wrote a "history" of IBM, *THINK: A Biography of the Watsons and IBM.*

Now, Rodgers has written a critical assessment of the current spate of lawsuits and of the company's relationships with its competitors.

He devotes the introductory segment of his new article to a recounting of the early years under T. J. Watson, Sr. Here, although he credits IBM with a reputation for probity, strict attention to business and concern for its customers [which] extended around the world, he also finds IBM's underlying business morality wanting.

Rodgers claims that, as far back as the 1930s, IBM marketing operations locked in customers and froze out the competition without notably hurting its own reputation for honesty and fair play.

Launching into the Justice Department's lawsuit against IBM, Rodgers states that the company is a corporation distinguished by the extent of its monopoly over what has become a basic industry.

Referring to the recent Telex trial, Rodgers concludes that what emerged from IBM internal documents which were entered into evidence in the case was a blueprint inadvertantly proving, at least to the court, that IBM was a predatory monopoly.

Rodgers also tracks at length through the Control Data Corporation's case against IBM, which was settled out of court. The lawsuit was provoked, Rodgers suggests, by IBM's announcement of a large scale computer designed to compete with the CDC supercomputer, its 6600.

Rodgers recounts in some detail the issues raised in the courtroom in Tulsa during the trial of the Telex case and of IBM's countersuit. His conclusions are severe: "What failed was the power of government and law, the only countervailing force capable of imposing restraints on a corporation of enormous wealth and power. Justice too long deferred invites the acceptance of risk to circumvent law. The experienced, sophisticated management of IBM was aware of the risks; it was explicitly advised of them by executives within the inner circle. The stakes—control of the market—were too tempting."

In his article, Rodgers also reports the views of individuals in the computer industry who are critical of IBM. In his concluding segment, Rodgers quotes at length Dan. L. McGurk, former president of Xerox Data Systems and currently president of the Computer Industry Association, a confederation of peripheral manufacturers which frequently expresses unbridled criticism of IBM. Rodgers quotes McGurk as saying: "This industry needs relief from monopoly now. Without it, the monopoly can thrive but the industry cannot."

* * *

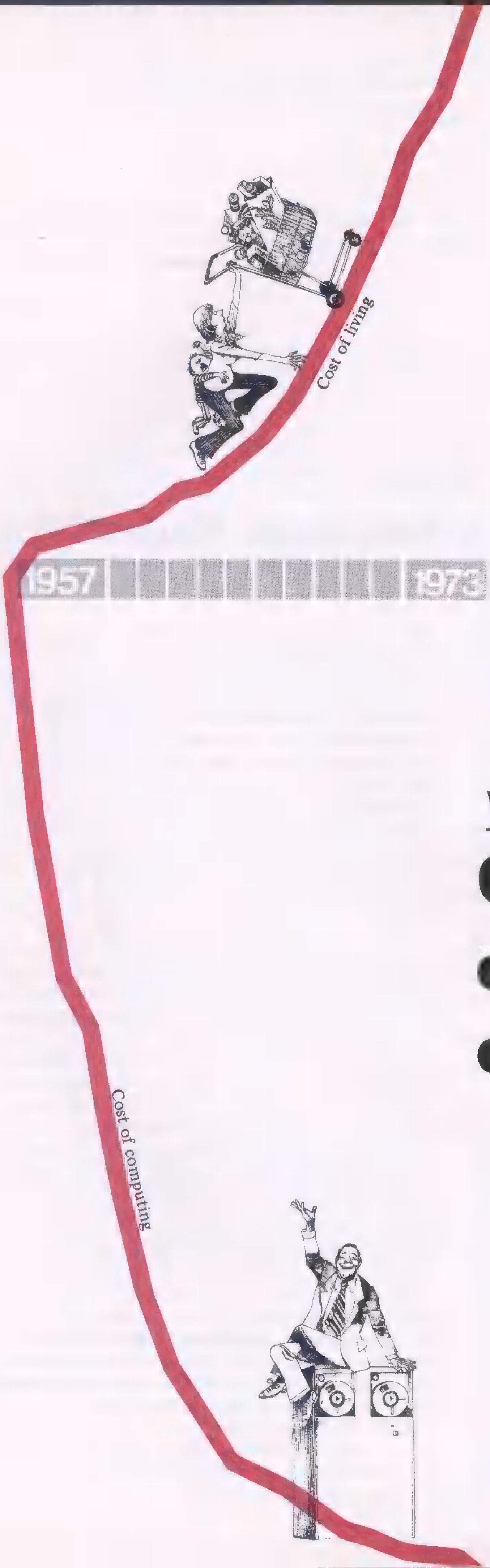
Founded 10 years before the Civil War, *Harper's* is the oldest of America's literary magazines—a-once-a-month compilation of opinion, literary and social criticism, and political and economic commentary. Its circulation is relatively modest for a national publication —325,000—but the people who read it are, in general, well-educated and influential.

For those who wish to read the entire article, back issues usually are available in public libraries.

While everything else is going up

Computing costs keep coming down

by Bernard Hodes



Remember the 1950s? The Eisenhower years, the Silent Generation. Gas cost 17¢ a gallon. A pretty good hamburger, a quarter. A movie, 50¢. A 4-door Ford V-8, $1,685. A three-bedroom house in Levittown, $7,900.

Half of the company's current employees in the U.S. were still in their early teens. Inflation? It was something that had been left behind in the postwar Forties.

But as an economist recently put it,

something has happened during the last 20 years on our way to Utopia. Between 1957 and 1974, the consumer price index went up 72.2 percent—with the steepest ascent in the last five years. The rock bottom cost of living for an urban family of four in 1967: $5,915. By the autumn of 1972, that rock bottom cost had jumped to $7,386. And last year, for the first time, personal income failed to keep up with inflation.

How about computers? Has this long inflationary spiral upped computing costs the same way? On the contrary, they've come down—more than five times as fast as the consumer price index has gone up. For example, a study of IBM computer use at customer locations reveals that the cost of doing the same amount of work has declined at a compound rate of about 23 percent per year for the last 16 years.

This means that a user today pays slightly more than 1 percent of what he would have paid in 1957 to perform the same operation. It's a far-fetched analogy, but had airplanes improved in technology and productivity at the same rate as computers since the early Fifties, you would now be able to fly around the world in 24 minutes for $43.

How have computing costs managed to buck the inflationary tide? Innovative technology, which in turn called for great capital investment. In just the last five years, IBM alone has invested almost $3-billion in research and development—$730-million in 1973.

Improvements in circuitry and memory have accounted for the lion's share of savings on computing costs. In 1952, IBM's early bird 701 performed 100,000 multiplications at a cost of $1.26. By 1964, that cost was down to 12 cents on a System/360 Model 50. Today, you can do the same 100,000 multiplications on a System/370 Model 168 for only two cents. A cent, if you use a Model 168 with a special high-speed feature.

For many a small company in the 1950s, an IBM 650 RAMAC was the answer. It rented for $7,500 a month. By the early 1960s, the average entry level price was knocked down to $3,100 a month for a System/360 Model 20. Today, a System/3 rents for about $1,800 a month.

Component reliability has added materially to those cost savings. It's ten thousand times greater than it was 20 years ago. For example, if it were possible to build a System/370 with the technology of the 701, you would need 625,000 vacuum tubes for openers. And they'd be failing quicker than they could be replaced.

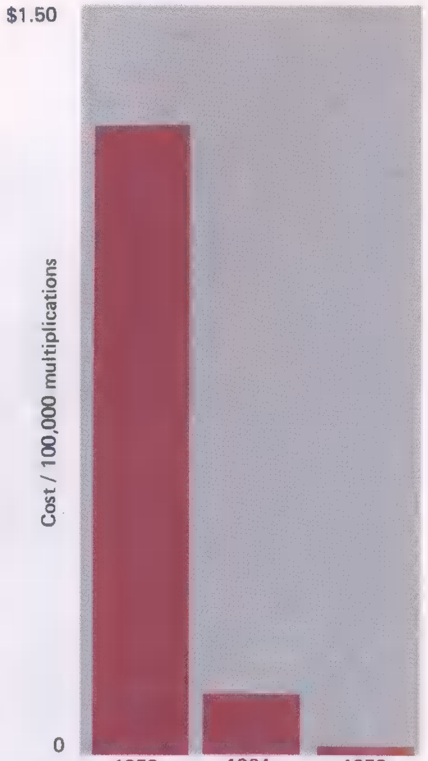
Significant strides have also been made in programmer productivity with high-level languages like COBOL, easy-to-learn terminal languages like APL, and virtual operating systems. One study showed a 50 to 80 percent improvement in programmer productivity through the use of the Time Sharing Option and the Conversational Monitor System. Most experts are agreed, however, that this area has barely been touched. With manpower now approaching two-thirds the cost of a computer installation, the incentive for savings here has substantially increased.

As computers become more economical, customers are discovering new ways to employ them in boosting the productivity of their own operations.

Some examples:

- A hand drill that sold for $16.95 twenty-five years ago is now being sold for $7.99. The manufacturer's computerized on-line shop floor reporting and control system helped make this possible.
- The life insurance industry has increased its premium income by 300 percent in the last 20 years. Computers have enabled them to hold their personnel growth to only 60 percent.

The outlook according to computer industry experts: more of the same. Lowered computing costs, more applications, more computer installations. ■



In 20 years, the cost of computing has dropped dramatically, from $1.26 to do 100,000 multiplications in 1952, to 12 cents in 1964, and 2 cents in 1972.

1924
QUARTER CENTURY CLUB
1974

by Peter Hillyer

Fifty years ago on the night of January 15, T. Channing Moore gathered 30 of his friends in New York City's Union League Club to help him celebrate his 25th anniversary with the company that was to be renamed, in that same year, the International Business Machines Corporation.

Moore started his business career in 1899 with the International Time Recording Company. It later merged with other firms to form the Computing-Tabulating-Recording Company, which became, in 1924, IBM.

Moore's special guest that evening was Thomas J. Watson, Sr., who had come to C-T-R 10 years before as its general manager, had since become president.

Impressed with the loyalty and pride he saw that night—and that's what it took to get people out on such a wintry evening—Watson said he believed it

INTERNATIONAL BUSINESS MACHINES CORP.

would be a good idea to form some sort of club or society of those men who had come into the company in its early days and who "had borne the heat and burden of the day.

"We will call it the Quarter Century Club," he said.

Five months later, at the Hotel Shelburne in Atlantic City, then in its heyday as a summer resort, the Quarter Century Club met officially for the first time.

At the banquet on the evening of June 21, Watson praised the contributions of the 42 company veterans there, and thanked them for the help and guidance they had given him since he joined the organization.

Another featured speaker was Chairman of the Board George W. Fairchild, who could not resist passing on a thought or two about salesmanship. "I said to Mr. Watson tonight," Fairchild told the audience, "that when Old Father Time comes around and says to me, 'Come here,' and commences to paint a furrow on my cheek or whiten my hair, I am going to ask him what time system he is using.

"If he isn't using the International Time Recording system or the combined systems of the International Business Machines Corporation, I am going to tell him that he had better go back and look his records over and start anew."

Before they left, members of the brand-new Quarter Century Club were each given a gold watch with a chain and a certificate of appreciation signed by Watson.

Until World War II, a Quarter Century Club meeting was held each year, with those who had reached the anniversary date traveling to whatever location had been selected. *Business Machines*, reporting somewhat lyrically on a 1929 meeting, said: "From the moment they left their Pullman cars at Atlantic City to enter upon the first stage of their holiday . . . these 15 new members of IBM's veteran organization found their days and nights crowded with surprises and entertainment such as even in their most optimistic moments they had probably never dreamed of."

However, during World War II companies were asked to curtail unnecessary travel, and the companywide meetings were stopped. Instead, a new member received a $500 check (upped

In Atlantic City, N.J., members of IBM's first Quarter Century Club—held in June of 1924—pose proudly outside of IBM's exhibit of products. Thomas J. Watson, Sr., is under the 'H' on page 30.

INTERNATIONAL
BUSINESS MACHINES CORP

to $1,000 last month) and was given recognition locally by his management.

"While the Quarter Century Club format has changed," says Chairman Frank T. Cary, "the basic reason for its existence has not—as an expression of appreciation for the service and dedication of IBM's longtime employees. Over the years, veteran IBMers have not only contributed greatly to the corporation's successes, but have kept its unique traditions alive by passing them on to younger men and women. Every organization needs youth. IBM is no exception. But it also needs the balance that comes from age, experience, and hard-gained wisdom. One of the greatest assets this company has are the seasoned men and women who have grown up with it."

Once IBMers have reached their 25th year with the company, they are eligible to join a local Quarter Century

At the Westchester Chapter's annual meeting, held in New York City, IBM President John Opel and his wife, Carole, chat with the dinner chairman, Jack Kenney, Jr., of the Data Processing Product Group in Harrison. Opel, who was the guest speaker, enters the Quarter Century Club himself on July 1.

About 500 people—IBMers and spouses or guests—attended the chapter meeting which was held at the Americana Hotel in New York City on May 31. The featured entertainer was Ray Bolger.

What countries outside the United States have the most Quarter Century Club members, active and retired?

According to the most up-to-date statistics, Germany was first with 1,048; France, second with 845; and Canada, third with 359.

They were followed by Italy—211, Brazil — 123, Argentina — 104, the Netherlands—94, Sweden—50, Switzerland—31, Mexico—28, the United Kingdom—22, Australia—20, and Japan—4.

Approximately 700 people from overseas companies are expected to celebrate their 25th year with IBM in 1974.

There was plenty of dancing to the music of a 20-piece orchestra at the Westchester Chapter meeting. While the musical repertoire included such current hits as the theme song from The Sting, *the majority of the tunes were old favorites.*

Club chapter—if one is available. There are more than 50 such chapters around the nation, and they each hold at least one annual chapter meeting *(see story on page 34),* and often sponsor other events: tours, clambakes, dances, outings, and the like.

The charm of these chapter meetings is the charm of a college reunion, only, in this case, the people usually have much more in common than just an alma mater.

"Don't forget," says a member of the relatively small Princeton/Dayton Chapter, "we've all been in the company at least 25 years—some a lot longer—and it was not as big then. When we get together, I feel that I know just about everybody."

According to Bob Gallagher, manager of employee services programs at Corporate Headquarters, the company works closely with the chapters, bearing the cost of their annual meetings, and doing whatever else it can to help out. Many chapters have IBM personnel specialists assigned to them to maintain close contact between the chapter and the company.

"Some of these chapter meetings are really big affairs," says Gallagher, "with several thousand people attending. Take a place like Poughkeepsie or Endicott where there are a lot of IBM employees and a lot of retirees, and you can see why. Each member gets to bring a spouse or guest."

Gallagher, who became a Quarter Century Club member himself three years ago, reports that in the United States there are more than 7,000 active Quarter Century Club members now with the company, and more than 4,000 retirees who are in the Club.

This year, to help chapters observe the 50th anniversary of the Quarter Century Club and to pay tribute to its members who helped shape and build the company, Corporate Headquarters produced a short film. It traces the evolution of the Club from the time of raccoon coats, the Charleston, and the Model T to the age of space exploration and System/370. ■

No generation gap

Charles Coughlin and Charles Wilbur both work for the System Products Division. And they have something else in common. Both are Quarter Century Club members—with a special distinction.

Wilbur, a security coordinator in Endicott, has been with the company for 45 years. This makes him the IBM employee with the most time in the business—and the Club.

He joined IBM in 1929 as a clerk in the accounting department, has a son, Charles, Jr., who is a member of the Endicott plant protection force.

A native of Binghamton, Wilbur says he has enjoyed watching and being part of the great changes in IBM over the years.

Coughlin, a staff engineer in East Fishkill, is the youngest member of the Quarter Century Club in IBM, having celebrated his 25th year with the company on December 10, 1973, at the age of 42. He is now 43.

A native of Chelsea, N.Y., he joined IBM at 17 as an apprentice toolmaker, has spent all his years with IBM in either East Fishkill or Poughkeepsie.

"When you realize that you've actually spent 25 years of your life with one company," says Coughlin, "it's quite a feeling. The time seems to have rushed by."

Wilbur, who will retire next year at 65, says that he is going to have to adjust to a new kind of life, one without the daily routine of working for IBM.

1924 QUARTER CENTURY CLUB 1974

REUNION AT PRINCETON

50TH ANNIVERSA

Ralph Campbell, right, the outgoing chapter president, offers congratulations to his successor, Howard Terray. A new slate of officers takes over each year at the annual meeting.

Having heard a lot about IBM's Quarter Century Club, which is now 50 years old and was created to pay tribute to the company's longtime employees, we decided to drop in on one of the annual chapter meetings.

Our choice was the Dayton/Princeton group, which has about 70 members, and we arrived at the historic Nassau Inn in Princeton, N.J., on a chill, rainy Friday evening in May.

Howard Hannay, who is manager of personnel services at the Information Records Division's Dayton plant, was there to greet us. In a quiet room with a handsome, beamed ceiling and walls hung with pictures of famed Princeton athletes, he explained something of his role vis-à-vis the local Quarter Century Club chapter, adding that he himself became a Quarter Century Club member last year and was now a legitimate attendee as well as an aide.

"Of course," he said, making a mild jest that we were to hear many times that evening, "I was only a child when I started with IBM."

It was now 7 p.m., and the reception, scheduled to last for an hour, had begun, with couples heading for a table of hot and cold hors d'oeuvres. Greetings filled the air. A quartet (two violins, a bass fiddle, and an accordion) was playing.

According to Hannay, who has been coordinating IBM Club activities in the area since the Dayton plant opened in 1958, the majority of the Quarter Century Club members attending were from IRD, but there were also members from the Data Processing and System Products Divisions, both of which are represented at the Dayton site.

"Most of the people are active employees," Hannay added, "but there are quite a few retirees, mostly people who have settled around here."

We chatted for a while with Frank Livernoche, a department manager at the plant, who said he and his wife have been coming to annual Quarter Century Club meetings for eight years.

We were introduced to Ivan Ball, who, perhaps, came the farthest for the meeting, driving from the tongue-twisting town of Tunkhannock, Pa., which, he said, is near Scranton. Ball, with IBM for 30 years, is now retired.

In the line for some shrimp, we encountered Bob Clewell, an IRD financial analyst, his wife, Althea, and a friend of theirs, Elliott Enyedy, retired after 40 years with IBM, and a resident of Rocky Hill, N.J. Enyedy said that he considered the Quarter Century Club "sort of like a fellowship and wouldn't miss a meeting for the world."

The dinner was excellent—lobster or filet mignon—and was followed by the installation of officers for the 1974-1975 term. The guest speaker for the evening was Walt Burdick, IBM vice president, personnel plans and programs, who had been personnel manager at the Dayton plant when it opened 16 years ago.

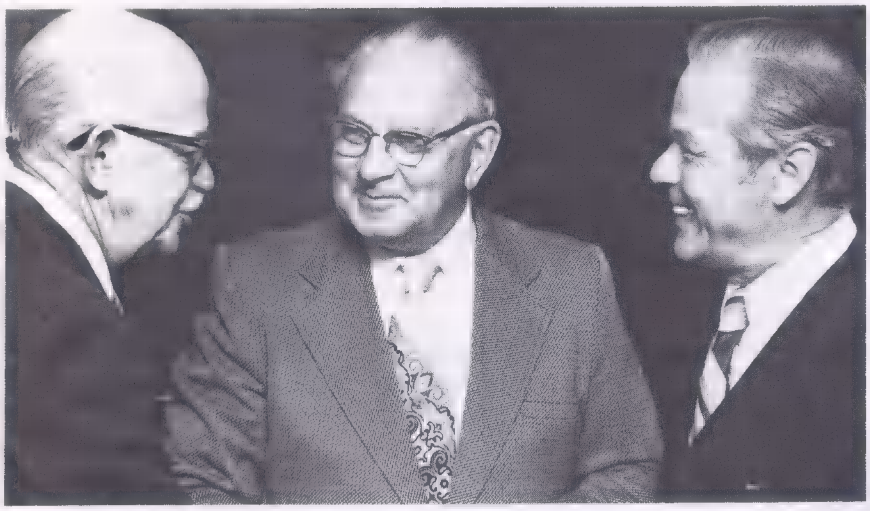
He would always remember his assignment in the Dayton plant, said Burdick, because it included his first transfer in IBM; his first child; his first mortgage; and, when he had to go to New York City, his first commuting experience.

The "official" part of the evening ended at about 10, but those members and their spouses who wished to stay and dance were invited to do so. As we left, the indefatigable quartet was playing *Moon over Miami,* and half a dozen couples were doing a comfortable old two-step.

—PETER HILLYER

Left: For Henry Muuse, a retired machine operator, and his wife, Hendrika, the evening meant an extra bonus. Each table had one dinner plate with a gold spot on it, and whoever had that plate was given the floral centerpiece. At this table, Mrs. Muuse was the winner.

Above: Jason Ludlow, who is retired, and his wife, Jane, admire the gift which was given to each Club member at the Princeton/Dayton Chapter meeting.



Left: IRD *Plant Manager Bob Harrison, right, chats with some old friends: Frank Moser, left, and Ivan Ball. Both men are retired, between them had 68 years in the business. Ball drove 300 miles to the chapter meeting from his home in Pennsylvania, Moser came from nearby Cranbury, N.J.*

During the reception, at dinner and afterwards for dancing, this quartet kept the music flowing.

It was only two months ago that IBM divided World Trade's world in two—with companies in the Americas and the Far East going to Ralph A. Pfeiffer Jr.; those in Europe, the Middle East, and Africa to Jacques G. Maisonrouge. Their staffs have already been sorted out and are well into their new missions. And this month, some 35 headquarters and country executives from Pfeiffer's half of the world are convening for a week of review and business planning in Bermuda. Meanwhile Gilbert E. Jones, long the 'Mr. World Trade' of IBM, was reassuring security analysts on a visit to San Jose that IBM's worldwide business is continuing strong despite inflation, monetary problems, and political changes overseas.

But IBM like other companies is burdened by misunderstandings of how international corporations operate. To clarify their role, Jacques Maisonrouge recently authored an article for *The Columbia Journal of World Business*. Excerpts follow.

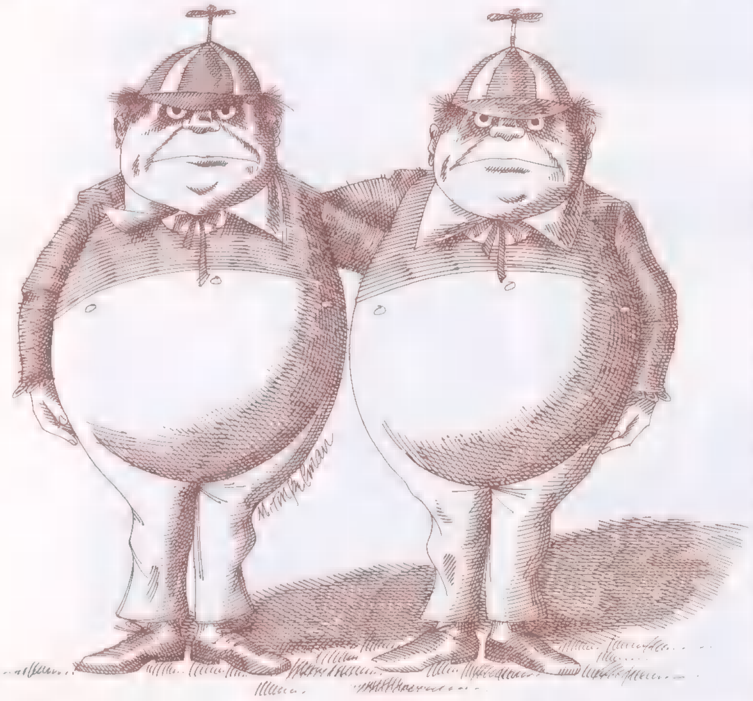
Myths about international

International corporations, like other misunderstood phenomena, are giving rise to a special mythology. Viewed through the prism of suspicion, their size and complexity—even the benefits they confer on national economies—tend to be seen in a negative light. A recent public opinion survey in the United States, for example, revealed that two out of every three Americans favor discouraging rather than encouraging expansion of U.S. business abroad. The majority of respondents were evidently unaware of such benefits as balance of payment and trade surpluses, as well as domestic job market stimulation, which U.S. foreign investment brings to this country. Such misunderstanding tends to provide support for measures like the Hartke-Burke legislation and other forms of economic nationalism.

I would like to consider four myths. They are representative of the erroneous ideas currently beclouding the business horizon.

All international corporations are alike

A widely held misconception is that international corporations are generally alike and, therefore, may be subjected to a uniform set of international regulations. This view ignores the diversity that marks international companies, the differences in their organization, their goals, their requirements, their problems, and in the kinds of contributions they make to the economic development of their host countries.



Indeed, the phrase, "international corporation," does not describe any specific company. We need only consider such companies as J. Walter Thompson, Massey-Ferguson, Chase Manhattan, Air Liquide, Volkswagen, Unilever, and IBM to see immediately that, while each clearly qualifies as an international, each also differs significantly from the others. No two, for example, require the same resources, income, or technical capabilities to operate successfully.

Compounding the difficulty is the lack of any universally accepted definition of "international." To be truly international, it seems to me, a company should meet five criteria:

- It must operate in many countries at different levels of economic development.
- Its local subsidiaries must be managed by nationals.
- It must maintain complete industrial organizations, including research and development and manufacturing facilities, in several countries.
- It must have an international central management.
- It must have international stock ownership.

Yet, even among companies that meet these criteria, wide differences persist. Any large petroleum company, Unilever, and IBM clearly qualify as internationals under my definition, but they are hardly interchangeable in terms of what they do, how they do it, or the problems they face.

The activities of each are viewed differently by their host countries. A petroleum or mining company, which extracts an irreplaceable resource from the earth, obviously faces political problems unknown to Unilever. Unilever, which must frequently alter the formulae of its consumer products to meet local requirements and customs, faces manufacturing and distribution problems unknown to the petroleum or mining company. And IBM, which is in a manufacturing industry situated at the high end of the technology spectrum—an industry with unique political, economic, and social

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corporations

Internationalism is a function of size

ramifications—must face problems and meet requirements unknown either to companies in the extractive industries or to Unilever.

One such requirement is the capital intensiveness of our industry, with its need for huge investments in research and development and manufacturing. In the last three years alone, IBM has spent some $2-billion on R&D, the equivalent of roughly half the corporation's net earnings over that period. This need for massive R&D, in turn, impacts our organizational needs, manpower requirements, and philosophy of ownership.

For example, it is imperative that our laboratories be located in an advanced industrial environment, for we need a critical mass of scientific and highly skilled manpower. For economic and competitive reasons, our plants must be near our chief markets—the world's industrialized countries. By way of contrast, the explorations of an oil company are necessarily limited to areas where petroleum deposits exist and these locations happen to be largely among the world's developing nations.

We differ then, and differ widely. The inescapable truth of the matter is that it is a serious mistake to ignore the diversity of international businesses. Any rules of conduct formulated with only certain types of international enterprise in mind, for example, could turn out to be meaningless or even damaging to other companies with different roles in the fabric of national economies.

Against this background, there has been growing speculation over the feasibility of establishing international controls over the international company.

If such institutions and devices are created, it is essential that they be realistic enough and flexible enough to cover the various kinds of international corporations that exist. For example, it is conceivable that guidelines designed to correct what are viewed as excessive practices by some international corporations might actually destroy the special conditions that others need to operate normally. They might, for instance, lead to reduced remittances, requirements for the dispersal of manufacturing or R&D capability, and the demand for divided ownership or local control. Moves such as these would cripple the effectiveness of many high technology companies, most certainly including IBM.

Another popular misconception is that international corporations are *ipso facto* large. Thus, a U.N. report dismisses from consideration all companies with less than $100-million in annual sales.

But size is not a criterion for operating internationally. This is borne out by last year's Booz, Allen & Hamilton report on the size of U.S. companies inaugurating foreign activities. Of 368 manufacturing companies starting overseas operations in 1972, 142—or more than 38 percent—had a sales volume of $99-million or less. And if we examine the period of 1961-72, when 5,050 manufacturing firms went international for the first time, we find that 2,239—44 percent—of them fell into the $99-million-or-less category. For nonmanufacturing industries, the respective percentages were 32 percent and 36 percent.

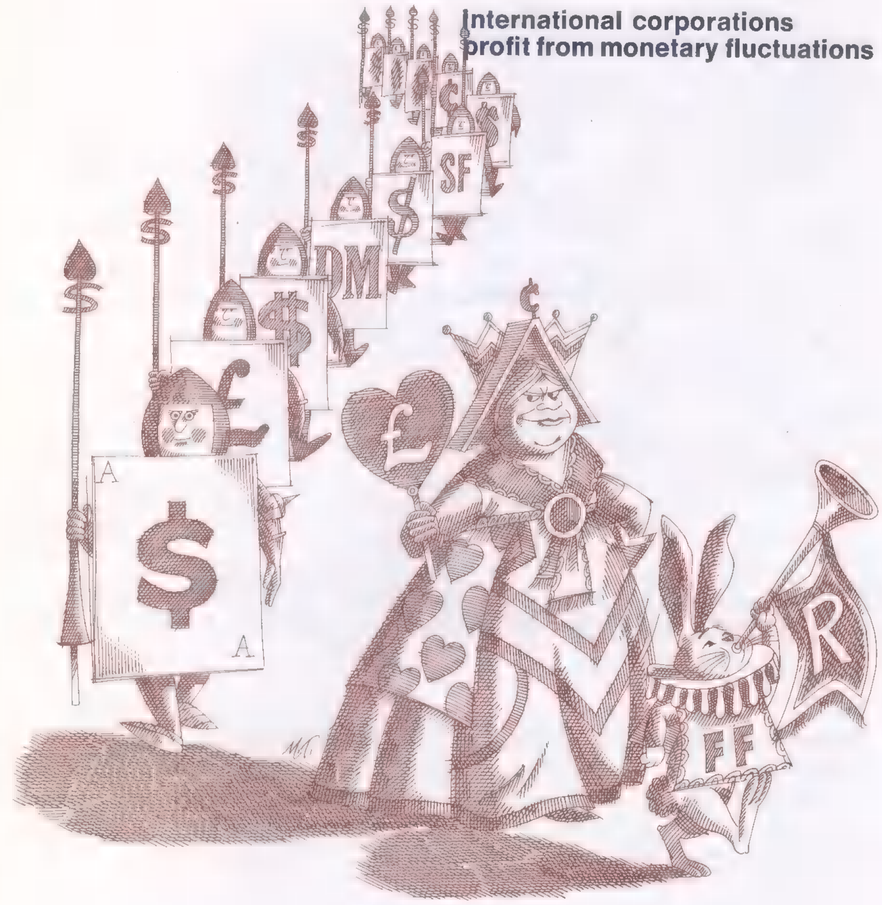
Such statistics should come as no surprise in view of the great growth world trade has experienced in recent years. Total world exports rose from $118.4-billion in 1961 to $327.8-billion in 1972, for a compound growth rate of some 11 percent.

There was a time when a company could anticipate reasonable, even robust growth within the borders of its home country. That time has gone forever, and for several good reasons.

First, because of certain new social, economic, and political facts of life. Common information made instantly available to the peoples of the developed countries, for example, has generated the same economic appetites, aspirations, and demands. Even among lesser developed countries, we find a persistent demand today for the very latest technologies. Then, barriers to international trade have been shrinking rapidly. Admittedly, there are clear and present threats of a protectionist revival today, but historically speaking, since the end of World War II, the broad trend has been toward freer trade.

Second, there has been a growing need to rely on larger and larger markets to support the increasingly sophisticated developmental work characteristic of modern business. The British aircraft industry, for example, cannot survive if it cannot sell abroad. And for most countries, the same holds true in shipbuilding, automobile manufacture, and the computer industry.

Third, such technological achievements as the jet airplane, satellite communications, and computers have made it possible for a company to control far-flung enterprises.

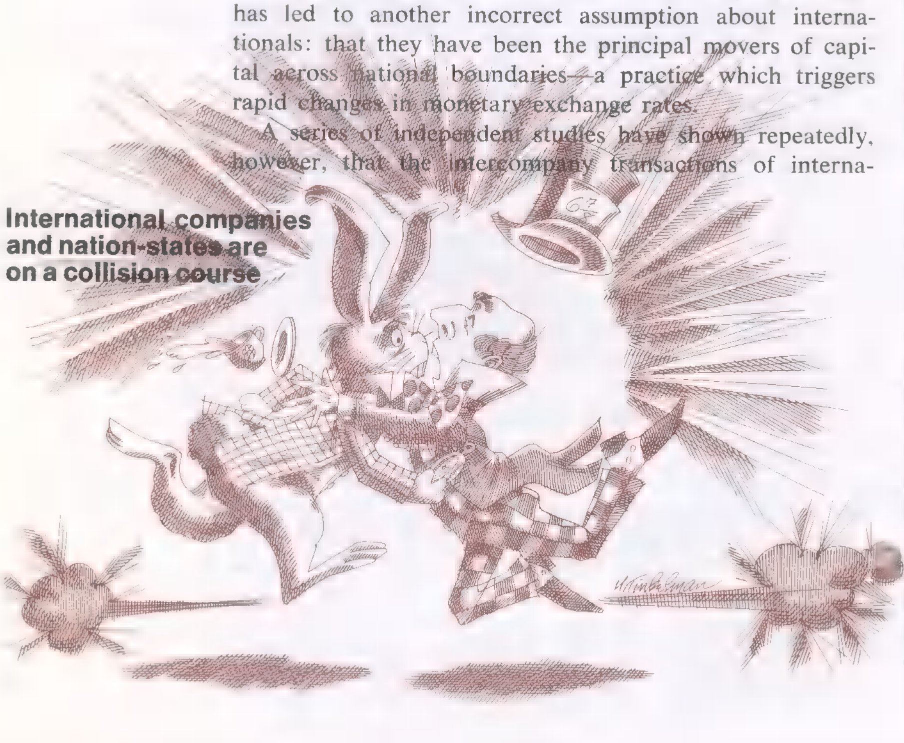


International corporations profit from monetary fluctuations

The IBM Corporation itself has had an international orientation from its earliest days. Last year, IBM grossed $11-billion; $5.14-billion of it overseas. Since this growth was due entirely to our own efforts, a desire to grow, and acceptance of our products and services in the marketplace, the inescapable conclusion is that we did not become international because we were big; but rather that we became big as a result of going international. And what is true of IBM is generally true of other international corporations.

The modern international corporation normally maintains a large capital reserve. Such liquidity is necessary to global operations because of continuous intercompany transactions. The existence of these large capital reserves has led to another incorrect assumption about internationals: that they have been the principal movers of capital across national boundaries—a practice which triggers rapid changes in monetary exchange rates.

A series of independent studies have shown repeatedly, however, that the intercompany transactions of internationals vary only slightly during exchange crises. In one of the more recent of these, reported to the United Nations' Group of Eminent Persons, Edward M. Bernstein said that, while international companies do tend to cover "their liabilities in a currency that is expected to appreciate and to liquidate their claims in a currency that is expected to depreciate," this cannot be called speculation. Mr. Bernstein added: "After they have undertaken such defensive operations, the profits of the international corporations may be no larger than they would have been if no changes in exchange rates . . . had been made." Mr. Bernstein's findings followed a report by Jack Bennett, Deputy Undersecretary for Monetary Affairs of the U.S. Treasury Department. Mr. Bennett studied currency flows in the first quarter of 1973, when the dollar was under heavy pressure, and found that movement of corporate funds was not a major component of the flow away from the dollar.



International companies and nation-states are on a collision course

There is a school of thought that maintains that the international company and the nation-state must ineluctably lock horns, since the one necessarily ignores the artificial boundaries of politics, language, and culture; and the other, just as necessarily, desperately clings to its sovereign rights.

This position, in turn, rests on certain sub-myths:

That international corporations are often more powerful than nation-states. The reasoning here runs as follows: "Because General Motor's turnover is greater than Belgium's Gross National Product, General Motors can therefore dominate, or at least influence, the Belgian Government."

Clearly, however, amounts of money cannot be equated with forces of influence. And it is patently invalid to compare *all* of General Motors with Belgium; rather, the comparison should be made between *all* of General Motors and *all* the countries in which it does business, especially between General Motors in the United States and the U.S. Government—and there, the relation is quite different, since General Motors' turnover represents less than 3 percent of the U.S. GNP. In addition, because it is a large company, General Motors must constantly bear in mind the U.S. antitrust laws, which are much more severe than those in Europe.

Moreover, the resources and strengths of even the largest companies pale by comparison with the legislative, executive, and military power of even a small state. In every modern confrontation between countries and companies, the countries have always prevailed. We need only review such recent instances as ITT in Chile, the seizures of oil companies' property abroad, and, in a number of European countries, the rise of strong, government-supported indigenous data processing companies to compete with U.S. companies to support this observation.

That international corporations exploit most countries. The idea that internationals do not act in the best interests of their subsidiaries and the countries where the latter operate did not originate at the U.N. hearings, to be sure. Gus Tyler of the International Ladies Garment Workers Union, in an article two years ago, charged that such corporations are "menacing the efforts of sovereign states to deal with the social and economic needs of their people." He added: "The global economic giants can order governments to comply with corporate needs—or else." But no specifics were offered that anything like this, in fact, is happening.

Even in the case of extractive industries, within which category some of the world's oldest internationals fall, if there was a time when they could operate with relative freedom, those days have passed, a fact which the current energy shortage vividly demonstrates.

On the other hand, it is not difficult to prove that interna-

Commencement

Among the recipients of honorary degrees this year, IBM President John Opel at Pace University. Excerpts from his address:

Your textbooks will soon be out of date. Your thesis may well be a scrapbook curiosity in a few years. But worst of all, you will find the habits of an inquiring mind are difficult to practice in our high-speed world.

The very rate of our activities demands so much of us we are tempted: to take shortcuts in our thinking, our logic, our intellectual processes—to accept well-expressed summaries and conclusions as handy substitutes for careful considerations of the facts.

The danger is the temptation to stop being students once you're off-campus. Yet nothing can be riskier.

The problem is not lack of information. Indeed, the problem is that there may be too much information. We once spoke of learning as drinking from the fountain of wisdom. The flow of information available today makes learning more like drinking from a high-velocity fire hose.

Prophecies in particular should be mistrusted. Very few prophecies of the past are of any use today except as entertainment. An English journal in 1896 predicted that radio transmission of the human voice would be forgotten by the end of that year. A number of American physicians looked at the first automobile and declared that the human body could never withstand velocities exceeding 15 miles per hour. As late as 1925, a French journal of surgery warned that blood transfusions would prove fatal.

We are all forced to look at the future through a clouded crystal ball. And most prophets will cloud it further. Beware of the obvious. Continue the discipline of educating yourself, relying on your own analysis and your own conclusions. What counts is activity of thought—the process that reacts to information and constructs meaning and understanding out of it.

. . . you are wholly justified in having faith in our society and the systems by which it functions. Admittedly they appear to be in pretty ragged shape at the moment. We live in what could be called a moment of national embarrassment. We know we have the oldest, surviving democracy in the world. We know the mechanisms are sound. Our embarrassment is at their misuse.

But we're also witnessing the system cleansing itself. Too slow for some, but nonetheless working.

Don't get discouraged. Stay with the system. Use it to solve the problem. Remember that a violation of the law calls for enforcement, not a new law.

The imperfection of a human being . . . The failure of an economic mechanism . . . The inadequacy of a political institution . . . Each of these problems can demonstrably be handled better in our society than any yet devised.

I say, with or without a clenched fist, the power is already to the people, where it belongs. And that's my reassurance.

As to my request. It's that you give a bit of credit to the generations of your parents and grandparents for what was accomplished in their lifetimes. In my grandfather's day in Missouri, where I come from, it took eight man-hours to harvest an acre of wheat. Today it takes less than two.

Thanks to your predecessors, your working day has been cut by a third, giving you more leisure than any generation has enjoyed. You have freedom from a dozen hideous diseases that their generations found the cures for. You already know more and are better trained at this stage of your life than any generation has ever been. You will be moving into occupations and industries that did not exist, in many cases, just a few years ago.

The efforts of your families will be continued in your behalf. In return they ask only that you dedicate yourselves in similar fashion to the world in which *your* children will grow up. Most importantly, that you learn from our mistakes. Because all they have achieved rather cruelly exposes the tremendous problems yet to be solved. Problems that deal generally with how, on earth, man can learn to live in harmony with himself and with nature. ■

tionals have conferred a number of lasting benefits upon their host countries through the creation of entire categories of new jobs; substantial contributions to GNPs and balances of payments; payments of taxes, both direct and indirect; and the transfer of technology, whereby living standards are raised and the general quality of life enriched, particularly in the developing countries.

That international corporations are invariably instruments of national policy. It is true that international companies are bound by the laws of their home countries, but to suggest that they are therefore pawns of national policy is sophistry. Among the first lessons every such corporation learns is the importance of observing local laws, customs, and business practices, for unless the international enterprise observes the rules of good corporate citizenship in its host country, its competitive position and performance there are doomed.

An international company is bound to obey the laws of its home country; there is no alternative. But because of the unique position it occupies—in the middle, straddling both countries so to speak—it is in a position of special responsibility: It has an opportunity to serve both home and host countries, representing the position of one to the other and, on occasion, contributing thereby to real international understanding and cooperation.

And even when such understanding is not reached, it is not so much a case of companies colliding with governments, as it is of governments colliding with governments.

The challenge—Traditional political thinking continues to provide the underpinnings for the mythology of internationalism, despite the demonstrable good that international corporations have done, and are doing. They are raising living standards, creating employment, and bringing the fruits of technological progress to the far corners of the globe. For some reason, this picture tends to be obscured by the mythology that has grown around such corporations.

To some extent, the international corporations are to blame. They have a positive story to tell. But many have allowed themselves to become shrouded in the sort of mystery on which misconceptions and misunderstandings can feed and grow. What is needed is candor and an aggressive effort by international corporations to get their story across. The alternative is continued unfounded criticism and, worse, the possibility of unwarranted and unwise controls. ■

People at the clubs

As the recognition season draws to a close, two firsts in San Francisco: the General Systems Division's first Hundred Percent Club, and the Data Processing Division's Fifth Club Forum, with wives and husbands as official guests.

Farther east, in the Rockies, men and women from the Field Engineering Division were meeting at Denver.

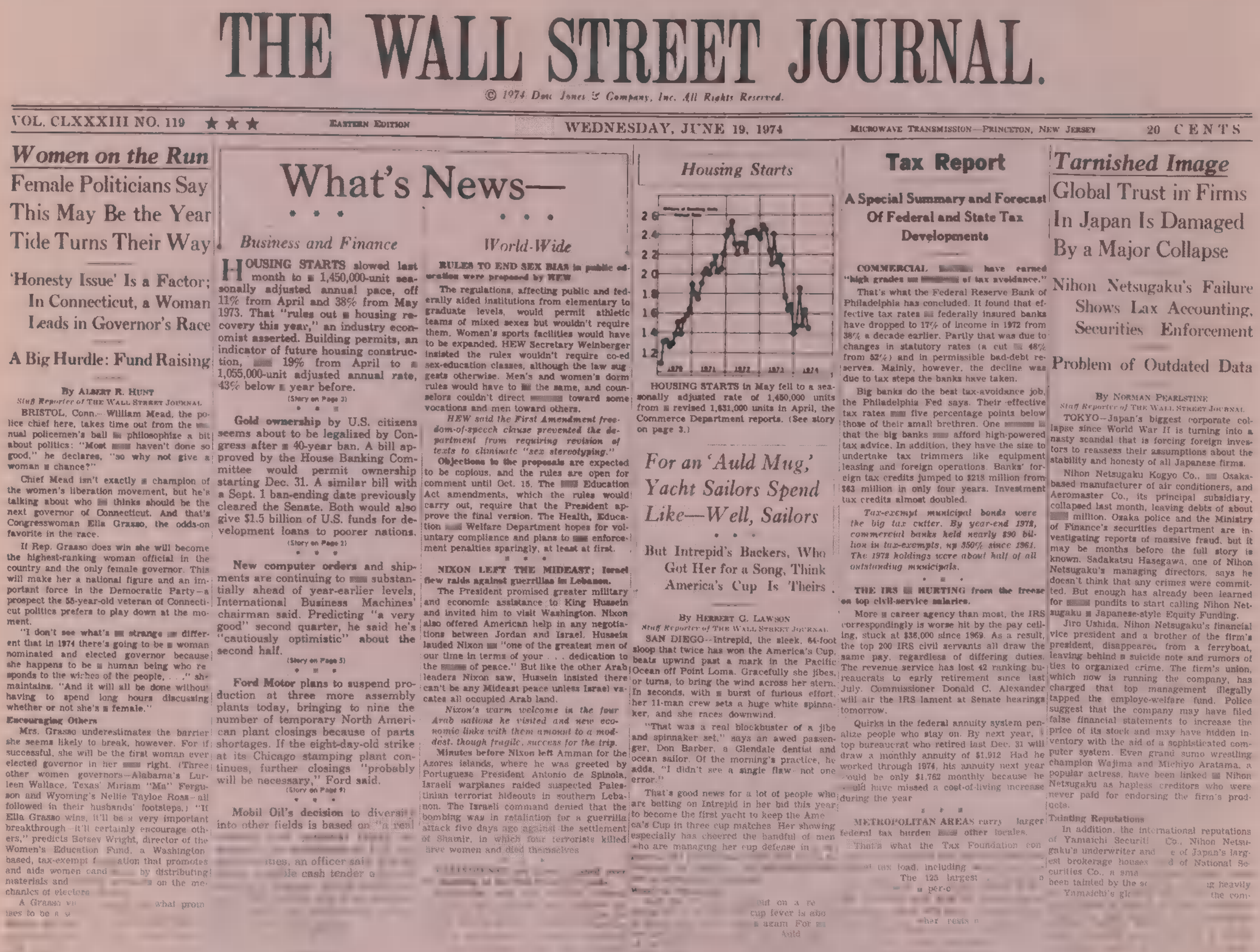
The annual gatherings of outstanding performers brought some 3,000 to the roundup.

"IBM is not only rewarding us. It is intellectualizing with us. The company is saying to me, 'You are important enough to IBM that we want to tell you the what and the why of our business.' " That was Lucy Beale's impression of the General Systems Division's first Hundred Percent Club, held in San Francisco recently for some 1,000 marketing people. Mrs. Beale, who joined IBM in Denver after graduating from the University of Colorado with a B.A. in chemistry, achieved 400 percent of quota last year. "The achieving is the thrilling part," she said recently in the lobby of the Fairmont Hotel. "The Club is the pat on the back. I feel revitalized."

Right: George Macintyre, of the Baton Rouge branch, and his wife, Zoe, took time out from DPD's Fifth Club Forum to visit San Francisco's Palace of Fine Arts, which contains a museum of science, technology, and perception; a 1,000-seat theater for dance, opera, symphony, and film festivals—and some resident geese.

Duane Wright of the Data Processing Division's Helena, Mont., branch office, right, and his wife, Sue, talk about their hometown with IBM Senior Vice President Dean McKay, who once served as branch manager there. All three were guests at DPD's Fifth Club Forum in San Francisco. Addressing the 450 marketing people and their spouses, McKay said: "You're part of one of the world's most uncommon and unusual companies . . . and our responsibility is to continue to be uncommon. To do that requires two things, and they're not optional. The first absolute essential is quality. The second is trust. In IBM we are fortunate. We enjoy the trust of many customers. But we have to keep earning and reinforcing that trust every day . . . We compete hard, very hard. But we compete with fairness and honesty. For we intend to be known as individuals and as a company worthy of trust."

Armand Pomerleau likes his systems big. A customer engineer at the Field Engineering Division's Boston South office, he keeps two System/370 Model 165s up and running for one of the nation's largest insurance companies. Pomerleau was honored with more than 1,300 other award winners at the division's Awards Conference in Denver, where the theme was "Take Charge of Tomorrow." An 18-year veteran, Pomerleau—who was involved with some of the early work on virtual storage—says: "The big thing in our business is change. We announce new products, we move with the market." His next stop: Two soon-to-be-installed Model 168s.



THE WALL STREET JOURNAL.

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Women on the Run

Female Politicians Say This May Be the Year Tide Turns Their Way

'Honesty Issue' Is a Factor; In Connecticut, a Woman Leads in Governor's Race

A Big Hurdle: Fund Raising

By ALBERT R. HUNT
Staff Reporter of THE WALL STREET JOURNAL

BRISTOL, Conn.—William Mead, the police chief here, takes time out from the [illegible]nual policemen's ball [illegible] philosophize a bit about politics: "Most [illegible] haven't done so good," he declares, "so why not give a woman a chance?"

Chief Mead isn't exactly a champion of the women's liberation movement, but he's talking about who [illegible] thinks should be the next governor of Connecticut. And that's Congresswoman Ella Grasso, the odds-on favorite in the race.

If Rep. Grasso does win she will become the highest-ranking woman official in the country and the only female governor. This will make her a national figure and an important force in the Democratic Party—a prospect the 55-year-old veteran of Connecticut politics prefers to play down at the moment.

"I don't see what's [illegible] strange [illegible] different that in 1974 there's going to be a woman nominated and elected governor because she happens to be a human being who responds to the wishes of the people, . . ." she maintains. "And it will all be done without having to spend long hours discussing whether or not she's a female."

Encouraging Others

Mrs. Grasso underestimates the barrier she seems likely to break, however. For if successful, she will be the first woman ever elected governor in her [illegible] right. (Three other women governors—Alabama's Lurleen Wallace, Texas' Miriam "Ma" Ferguson and Wyoming's Nellie Tayloe Ross—all followed in their husbands' footsteps.) "If Ella Grasso wins, it'll be a very important breakthrough—it'll certainly encourage others," predicts Betsey Wright, director of the Women's Education Fund, a Washington based, tax-exempt f[illegible]ation that promotes and aids women cand[illegible] by distributing materials and [illegible] on the mechanics of elections

A Grasso vi[illegible] what promises to be a s[illegible]

What's News—

* * *

Business and Finance

HOUSING STARTS slowed last month to a 1,450,000-unit seasonally adjusted annual pace, off 11% from April and 38% from May 1973. That "rules out a housing recovery this year," an industry economist asserted. Building permits, an indicator of future housing construction, [illegible] 19% from April to a 1,055,000-unit adjusted annual rate, 43% below a year before.

(Story on Page 3)

* * *

Gold ownership by U.S. citizens seems about to be legalized by Congress after a 40-year ban. A bill approved by the House Banking Committee would permit ownership starting Dec. 31. A similar bill with a Sept. 1 ban-ending date previously cleared the Senate. Both would also give $1.5 billion of U.S. funds for development loans to poorer nations.

(Story on Page 2)

* * *

New computer orders and shipments are continuing to [illegible] substantially ahead of year-earlier levels, International Business Machines' chairman said. Predicting "a very good" second quarter, he said he's "cautiously optimistic" about the second half.

(Story on Page 3)

* * *

Ford Motor plans to suspend production at three more assembly plants today, bringing to nine the number of temporary North American plant closings because of parts shortages. If the eight-day-old strike at its Chicago stamping plant continues, further closings "probably will be necessary," Ford said.

(Story on Page 9)

* * *

Mobil Oil's decision to diversi[illegible] into other fields is based on "a real [illegible] ...ties, an officer sai[illegible] ...le cash tender o[illegible]

World-Wide

RULES TO END SEX BIAS in public education were proposed by HEW

The regulations, affecting public and federally aided institutions from elementary to graduate levels, would permit athletic teams of mixed sexes but wouldn't require them. Women's sports facilities would have to be expanded. HEW Secretary Weinberger insisted the rules wouldn't require co-ed sex-education classes, although the law suggests otherwise. Men's and women's dorm rules would have to [illegible] the same, and counselors couldn't direct [illegible] toward some vocations and men toward others.

HEW said the First Amendment freedom-of-speech clause prevented the department from requiring revision of texts to eliminate "sex stereotyping."

Objections to the proposals are expected to be copious, and the rules are open for comment until Oct. 15. The [illegible] Education Act amendments, which the rules would carry out, require that the President approve the final version. The Health, Education [illegible] Welfare Department hopes for voluntary compliance and plans to [illegible] enforcement penalties sparingly, at least at first.

* * *

NIXON LEFT THE MIDEAST; Israel flew raids against guerrillas in Lebanon.

The President promised greater military and economic assistance to King Hussein and invited him to visit Washington. Nixon also offered American help in any negotiations between Jordan and Israel. Hussein lauded Nixon [illegible] "one of the greatest men of our time in terms of your . . . dedication to the [illegible] of peace." But like the other Arab leaders Nixon saw, Hussein insisted there can't be any Mideast peace unless Israel vacates all occupied Arab land.

Nixon's warm welcome in the four Arab nations he visited and new economic links with them amount to a modest, though fragile, success for the trip.

Minutes before Nixon left Amman for the Azores islands, where he was greeted by Portuguese President Antonio de Spinola, Israeli warplanes raided suspected Palestinian terrorist hideouts in southern Lebanon. The Israeli command denied that the bombing was in retaliation for a guerrilla attack five days ago against the settlement of Shamir, in which four terrorists killed three women and died themselves

Housing Starts

HOUSING STARTS in May fell to a seasonally adjusted rate of 1,450,000 units from a revised 1,631,000 units in April, the Commerce Department reports. (See story on page 3.)

For an 'Auld Mug,' Yacht Sailors Spend Like—Well, Sailors

* * *

But Intrepid's Backers, Who Got Her for a Song, Think America's Cup Is Theirs

By HERBERT G. LAWSON
Staff Reporter of THE WALL STREET JOURNAL

SAN DIEGO—Intrepid, the sleek, 64-foot sloop that twice has won the America's Cup, beats upwind past a mark in the Pacific Ocean off Point Loma. Gracefully she jibes, or turns, to bring the wind across her stern. In seconds, with a burst of furious effort, her 11-man crew sets a huge white spinnaker, and she races downwind.

"That was a real blockbuster of a jibe and spinnaker set," says an awed passenger, Don Barber, a Glendale dentist and ocean sailor. Of the morning's practice, he adds, "I didn't see a single flaw—not one error."

That's good news for a lot of people who are betting on Intrepid in her bid this year to become the first yacht to keep the America's Cup in three cup matches. Her showing especially has cheered the handful of men who are managing her cup defense in [illegible]

...out on a re... cup fever is also ... again. For ... Auld

Tax Report

A Special Summary and Forecast Of Federal and State Tax Developments

COMMERCIAL [illegible] **have earned "high grades** [illegible] **of tax avoidance."**

That's what the Federal Reserve Bank of Philadelphia has concluded. It found that effective tax rates [illegible] federally insured banks have dropped to 17% of income in 1972 from 38% a decade earlier. Partly that was due to changes in statutory rates (a cut [illegible] 48% from 52%) and in permissible bad-debt reserves. Mainly, however, the decline was due to tax steps the banks have taken.

Big banks do the best tax-avoidance job, the Philadelphia Fed says. Their effective tax rates [illegible] five percentage points below those of their small brethren. One [illegible] that the big banks [illegible] afford high-powered tax advice. In addition, they have the size to undertake tax trimmers like equipment leasing and foreign operations. Banks' foreign tax credits jumped to $218 million from $63 million in only four years. Investment tax credits almost doubled.

Tax-exempt municipal bonds were the big tax cutter. By year-end 1972, commercial banks held nearly $90 billion in tax-exempts, up 350% since 1961. The 1972 holdings were about half of all outstanding municipals.

* * *

THE IRS [illegible] **HURTING from the freeze on top civil-service salaries.**

More a career agency than most, the IRS correspondingly is worse hit by the pay ceiling, stuck at $36,000 since 1969. As a result, the top 200 IRS civil servants all draw the same pay, regardless of differing duties. The revenue service has lost 42 ranking bureaucrats to early retirement since last July. Commissioner Donald C. Alexander will air the IRS lament at Senate hearings tomorrow.

Quirks in the federal annuity system penalize people who stay on. By next year, a top bureaucrat who retired last Dec. 31 will draw a monthly annuity of $1,912. Had he worked through 1974, his annuity next year would be only $1,762 monthly because he would have missed a cost-of-living increase during the year

* * *

METROPOLITAN AREAS carry [illegible] larger federal tax burden [illegible] other locales.

That's what the Tax Foundation con[illegible] ...tax load, including ... The 125 largest ... per-c...

Tarnished Image

Global Trust in Firms In Japan Is Damaged By a Major Collapse

Nihon Netsugaku's Failure Shows Lax Accounting, Securities Enforcement

Problem of Outdated Data

By NORMAN PEARLSTINE
Staff Reporter of THE WALL STREET JOURNAL

TOKYO—Japan's biggest corporate collapse since World War II is turning into a nasty scandal that is forcing foreign investors to reassess their assumptions about the stability and honesty of all Japanese firms.

Nihon Netsugaku Kogyo Co., [illegible] Osaka-based manufacturer of air conditioners, and Aeromaster Co., its principal subsidiary, collapsed last month, leaving debts of about [illegible] million. Osaka police and the Ministry of Finance's securities department are investigating reports of massive fraud, but it may be months before the full story is known. Sadakatsu Hasegawa, one of Nihon Netsugaku's managing directors, says he doesn't think that any crimes were committed. But enough has already been learned for [illegible] pundits to start calling Nihon Netsugaku a Japanese-style Equity Funding.

Jiro Ushida, Nihon Netsugaku's financial vice president and a brother of the firm's president, disappeared from a ferryboat, leaving behind a suicide note and rumors of ties to organized crime. The firm's union, which now is running the company, has charged that top management illegally tapped the employe-welfare fund. Police suggest that the company may have filed false financial statements to increase the price of its stock and may have hidden inventory with the aid of a sophisticated computer system. Even grand sumo wrestling champion Wajima and Michiyo Aratama, a popular actress, have been linked [illegible] Nihon Netsugaku as hapless creditors who were never paid for endorsing the firm's products.

Tainting Reputations

In addition, the international reputations of Yamaichi Securiti[illegible] Co., Nihon Netsugaku's underwriter and [illegible]e of Japan's largest brokerage houses [illegible]d of National Securities Co., a sma[illegible] been tainted by the s[illegible] ...g heavily ... Yamaichi's gl[illegible] ... the com-

IBM sees a 'very good' 2nd quarter, citing big gain in orders and shipments

The following story by Scott R. Schmedel, staff reporter, appeared in The Wall Street Journal *of June 19, 1974.*

ARMONK, N.Y.—New computer orders, as well as shipments, continue to run substantially above year-earlier levels, Frank T. Cary, chairman of International Business Machines Corp., said in an interview.

These and other factors, including the continuing high rate of outright purchases of large computers by customers, are combining to produce "a very good" second quarter for IBM, he said.

IBM executives customarily are reticent about growth rates and reluctant to appraise the future. Thus, Mr. Cary said he is "cautiously optimistic" about the second half, and he reiterated that because of a strong 1973 second half, it will be difficult to maintain the rate of revenue and profit increases of this year's first half.

"You won't be able to take first half growth rates and extrapolate the full year," he warned. He also cautioned against using any single indicator in attempting to forecast IBM's future.

However, Mr. Cary described the indicators of IBM's

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current business in highly favorable, if general, terms.

In the 1973 second quarter, the world's dominant computer maker earned a record $356.7 million, or $2.44 a share, on record revenue of $2.55 billion. In the second half of the year, [illegible] deliveries of new large computers began to accelerate, shipments and outright sales increased sharply.

Purchases of big computers

Most customers rent computers, a practice that can produce more profit for IBM spread over the long term. It's becoming common, however, to buy large computers, which have long working lives, and that produces immediate full profit for IBM.

IBM's 1973 fourth quarter net income jumped nearly 38% from a year before. The company wound up with [illegible] 23% increase in full-year net, to $1.58 billion, or $10.79 a share, as revenue increased 15% to $10.99 billion.

In 1974's first quarter, net rose 27% to $431.3 million, or $2.94 a share, and revenue climbed 22% to $3 billion.

"This will be a high-shipment year," Mr. Cary said, "and a relatively high percentage of our shipments continues to be purchased outright." He said he hadn't seen any sign of decline in the proportion of purchases and added: "I wish we understood the purchase phenomenon better. It's very, very hard to forecast the breakdown between purchases and rentals by customers."

Historically, purchases were more frequent in the early years of a new computer family, such as IBM's System/370 announced in June 1970. However, Mr. Cary said, "There's a greater tendency now to buy large systems at any point in the product life cycle."

This development has had a major impact on another IBM business indicator—the quarterly rate of growth from a year before in revenue from the rental and service business. Several years ago, that figure approached 20%. Last year, it was just above 11% in the first quarter, but rose to 14.5% for the full year. Then, in this year's first quarter, it was 9.5%.

No longer a key indicator

IBM used to point to this figure as a key growth indicator. But now Mr. Cary said, "I don't really concern myself with quarter-by-quarter comparisons, because of the differences in levels of shipments and the purchase-rental mix. It won't disturb me at all if we wind up with an increase of 9.5% in rental and service revenues for the full year, as long as shipments, orders, and backlogs are up, too."

Mr. Cary noted that some securities analysts were concerned because first quarter rental and service revenue didn't increase from the fourth quarter of 1973. But he said he wasn't concerned by that.

Incoming world-wide orders are up considerably from a year ago, Mr. Cary said, except in Germany where government anti-inflation actions have kept new business about level with last year. He said he hasn't seen any signs of a flattening in capital spending elsewhere. He attributed strength in the computer business to customers' desire to automate to increase productivity during inflation.

Despite the high rate of computer shipments, Mr. Cary disclosed that the company's order backlog has stayed about the same as it was Dec. 31. At that time, IBM said unfilled orders for the sale or lease of data-processing equipment had a "net monthly rental value" of about $134 million, after allowing for possible cancellations and for the effect of replacing installed equipment on rent. Barring major deterioration in the world economy, Mr. Cary said, the backlog should be maintained, or possibly increased, by year-end.

Another favorable indication of IBM's business is fewer "discontinuances" of equipment on rent, Mr. Cary said. A "discontinuance" in IBM's lexicon is the return of a computer that a customer has decided he can do without.

Mum on new computer

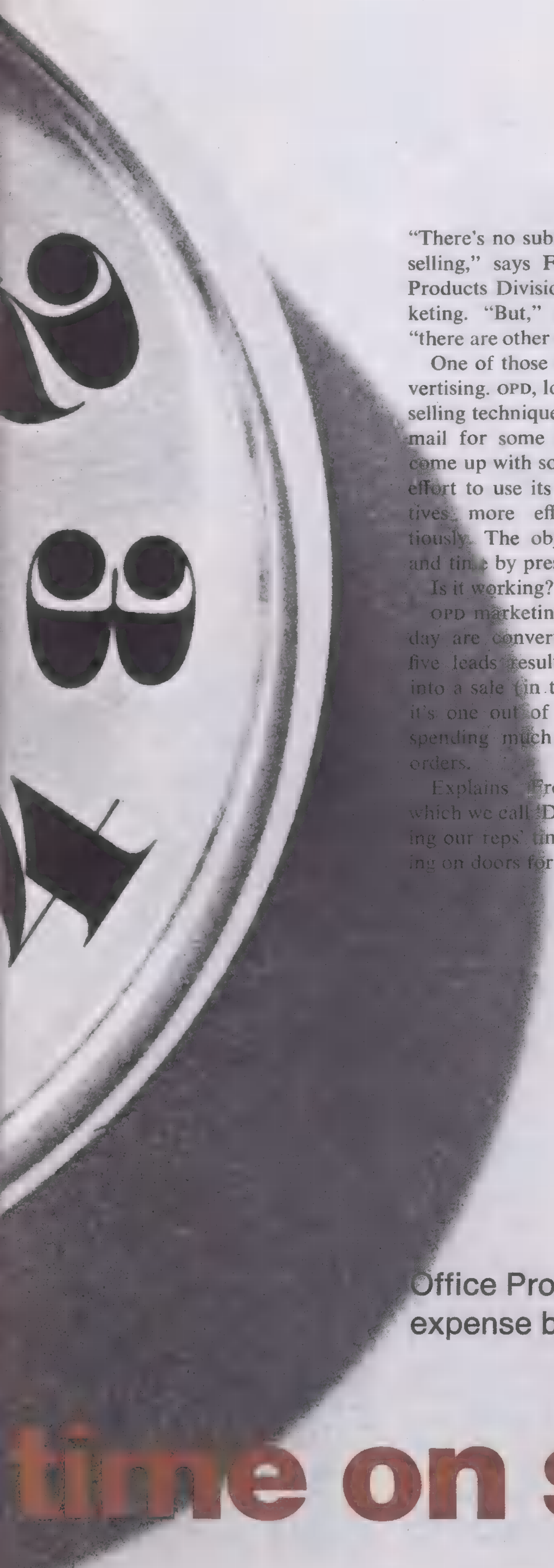
Mr. Cary declined to discuss IBM's plans for its next computer line, which has come to be known in the industry as "FS," for "future system," or as "System Q" (although IBM has changed its confidential code name for the system).

He attributed his reluctance to talk about what may happen in 1975 to the fact that "I don't recall a time when we had so much political and economic uncertainty." A major concern, he said, is whether governmental efforts to control inflation will allow some economic growth or cause recessions in some countries.

In January, IBM directors increased the quarterly dividend to $1.28 a share from $1.12, the maximum rise possible under federal guidelines. Since controls have ended, some analysts have suggested that IBM will raise the rate again this year. Mr. Cary declined to predict the board's action, but said he was sure the directors "will be looking very diligently at that."

The biggest unknown for IBM concerns the outcome of antitrust suits against it by the Justice Department and several competitors. Mr. Cary noted that the company was forbidden by court order to comment on the government suit, which is scheduled for trial in October. IBM has denied any wrongdoing in any of the cases and has expressed confidence that it will be vindicated. ■

How to save



time on sales calls

Office Products boosts productivity and cuts sales expense by using the mails to help open doors

"There's no substitute for face to face selling," says Frank P. Frost, Office Products Division vice president, marketing. "But," he is quick to add, "there are other ways."

One of those ways is direct mail advertising. OPD, long a proponent of this selling technique, has been using direct mail for some time but recently has come up with some new wrinkles in an effort to use its marketing representatives more effectively and expeditiously. The objective: To save steps and time by preselecting hot prospects.

Is it working? Yes.

OPD marketing men and women today are converting one out of every five leads resulting from direct mail into a sale (in the case of typewriters, it's one out of three). And they are spending much less time getting the orders.

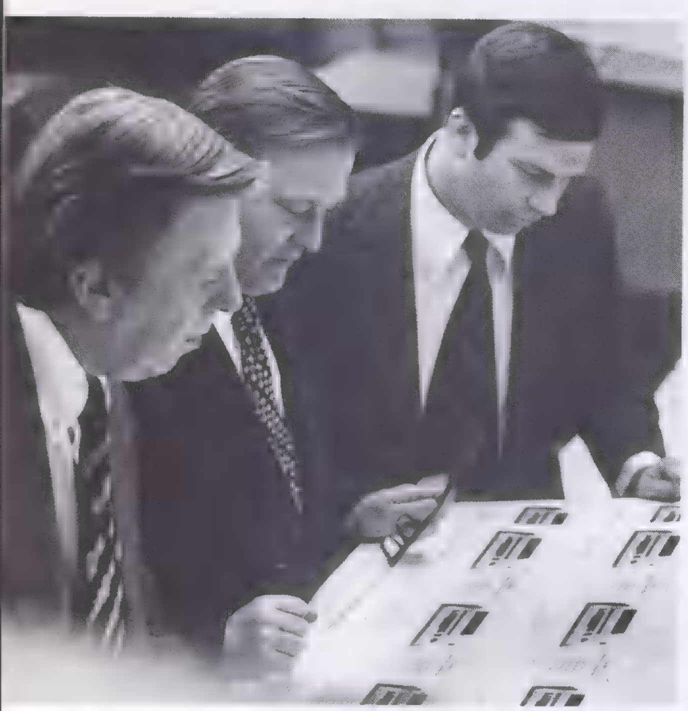
Explains Frost: "This program, which we call 'Direct Response,' is saving our reps' time by, in effect, knocking on doors for them and finding good sales opportunities. It's effective and, we feel, an important part of our overall marketing effort."

The division has been reaching out to potential users of its products primarily through the mail to their offices and recently with inserts in trade magazines. The audience is told just what OPD equipment and techniques can do for them, and asked to respond.

"One reason that the leads are on target," says Bob Hutchings, OPD manager of advertising, "is the reply card. It goes with every piece of Direct Response advertising. Let's say it's about the Mag Card II. When a customer fills out that card and returns it, he's saying that, yes, there are some word processing problems in his business, and, yes, the Mag Card II just might help him.

"The card has space for name, address, phone number, and 'best time to call.' It's a request for an appointment with one of our marketing people. Somebody who's just curious probably isn't going to go to that much

This is the typewriter.
This is the key.
It makes typing mistakes vanish.
IBM
IBM
IBM



Checking a proof sheet at the printer's are three architects of OPD's direct mail program. They are, left to right, Jim D'Arcy, mail advertising manager; Bob Hutchings, manager of advertising; and Matt Sperber, advertising rep.

trouble or commit the time."

The filled out card goes to OPD Headquarters in Franklin Lakes, N.J., which notifies the appropriate branch office. The result: a bona fide sales lead.

Some other convincing facts:

- An order resulting from a Direct Response lead for a typewriter takes, on the average, significantly less sales-call time than it takes without Direct Response.
- Small accounts, which salesmen have difficulty getting to because of other priorities, are being covered well by Direct Response. Much of the program's success is due to its effectiveness in businesses which have one to 10 employees.
- It's also been an extremely useful technique in gaining new customers for OPD. Nearly 30 percent of last year's customers reached through Direct Response became IBM customers for the first time.

The division's mailing goes to as specific list of decision-makers as possible. This involves researching the audience, analyzing the results, generating reports for the next round of mailings.

Good for productivity

When a sales person sells more in the same amount of time, that's productivity. Productivity measures how much can be done or made in a period of time, compared to what goes into the task—primarily time, manpower, and materials. Everybody wants to boost productivity and most experts agree that doing so will help contribute toward the general prosperity of the country.

Two years ago, the average sales call for American industry cost nearly $58, or almost double what it was 10 years before. This year, with the energy crisis, material shortages, and inflation, the pressure is on the sales executive to get the most out of his marketing dollar. The pressure is so intense that some firms use computers to keep up-to-the-minute data on the salesman's performance, time utilization, calls, expenses, collections, and advertising and promotion expenses.

The goal, of course, is to improve productivity. Direct mail advertising has become a major tool and a big business in helping to achieve that goal.

Last year, reports the U.S. Department of Commerce, direct mail advertising (everything from a one-page flyer to a 400-page catalogue) sold from $40-billion to $50-billion worth of goods and services.

What's more, as an industry it provides jobs for more than a million people, generates a fourth of all the mail delivered in the U.S., and is, in fact, the nation's third-largest advertising medium (newspapers are first; television, second).

A study by the U.S. Postal Service showed that most people who open this mail, react favorably to it, and buy something sooner or later.

Bob Armstrong, left, account manager for state government, Indianapolis

"The customer is interested before you get there and that's one of the first steps in selling. It's usually somebody who has a sincere interest and it's pretty easy for us to develop it from that point."

Vic Jung, right, advanced marketing representative, Washington, D.C., North

"Very definitely a quicker sale. The customer has contacted you and said in effect, 'We have a problem.' This means you don't have to spend a lot of time convincing him of that fact. You can get right to work on providing the solution to that problem."

Don Cockrell, left, advanced marketing representative, Oxnard field office, Santa Barbara

"There have been some cases where the customer had seen the card to send in but, because they're familiar with us here in the community, instead of sending it in they called us."

Reed Farley, right, marketing representative, Cincinnati

"I'd say in a lot of cases the lead will cause a salesman to make a call that he might not have otherwise because he thought he had no chance for selling a replacement or that the customer had no application for the machine."

Dick Predmore, left, marketing representative, Baltimore

"The customer may even throw the mailing away, but he has seen it and he knows we make the product. That's important—just the awareness that's generated by that kind of mail."

Duane Senneseth, right, program manager, Los Angeles Westchester

"The great benefit to us was just being able to see people we could never see before, primarily levels of management we hadn't even known about."

To formulate mailing lists to customers, OPD uses a System/370 computer program in addition to rented mailing lists from commercial houses.

As reply cards come in and leads go out to OPD's sales force, the branches report on the results of their Direct Response-inspired sales calls. The information, which shows who is most likely to react positively to Direct Response and what approach is most successful, is used to further refine the lists for future mailings.

To determine the attitudes of OPD customers and prospects about direct mail, a comprehensive research study was made. Key highlights of the study showed that 60 percent of those interviewed preferred direct mail to other advertising media as a source of product information. Direct mail was second only to sales calls as a source of information about products, businessmen reported. Seventy-five percent of those interviewed said that direct mail was helpful to them in their jobs.

"The use of direct mail advertising isn't new for OPD," says Al Winegar, director of marketing operations. "We've been doing something similar since 1956. But in recent years, it's become a more important marketing tool."

According to Jim D'Arcy, who is OPD's mail advertising manager, the increased success of the division's direct mail program is due largely to improved computerized selection techniques. And he adds that the Direct Response program also is used to keep customers aware of new OPD products.

Without Direct Response, Ed Crawford probably wouldn't have landed one of his bigger orders of the year.

Crawford, a systems marketing rep who works out of the Youngstown, Ohio, branch, sold four Copier IIs to G.F. Business Equipment, Inc., one of the nation's largest manufacturers of office furniture.

Crawford, needless to say, is pleased with OPD's venture into direct mail advertising.

And Fred Malloy, G.F. Business Equipment's manager of marketing services, is also complimentary.

"The way the direct mail piece was presented," he says, "it hit right on the button. It came at a time when I knew we had to do something about our copying and duplicating. And it offered a potential solution."

- For Art Sickles, OPD's Direct Response ad campaign was nothing short of a bonanza.

Sickles, a systems marketing representative with the Raleigh, N.C., branch, got a Direct-Response-initiated order for six Mag Cards and one Mag Card II from a Federal Government account.

"It really wasn't something I expected so soon," says Sickles. "I think we would have gotten the business eventually. But the Direct Response lead told me the prospect was ready—NOW.

"My total sales-call time was about six hours—pretty short work for such a good order."

- Gary Kaunitz is a believer in the efficacy of advertising.

Kaunitz, a systems marketing rep with the Lansing, Mich., branch, landed an order for three Mag Card IIs and four input processing units. The customer, a law firm with two Mag Cards already installed, had replied to a Direct Response mailing announcing the Mag Card II.

"I had taken over the account a few months before," says Kaunitz, "and it looked geared up. But obviously it wasn't."

In following the lead fed to him by OPD Headquarters, Kaunitz showed a 12-minute film explaining the Mag Card II, during a second call studied the firm's operations, recommended three Mag Card IIs and the input processing equipment. On the third call, he got the order.

Total time of his involvement in the customer's office: about one hour. ■

To OPD Salesman Ed Crawford, left, of the Youngstown, Ohio, OPD branch, Direct Response meant a sale of four Copier IIs to G.F. Business Equipment, Inc. The firm's manager of marketing services, Fred Malloy, right, says that Direct Response's appeal was right on target.

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(Continued from front leaf)

as much to produce, was far more efficient and was priced lower than the old core technology.

With respect to each of these three pricing actions the Court found . . . "no evidence that IBM reduced prices below cost and a reasonable profit." It found with respect to the Fixed Term Plan that the profitability would be in excess of 20 percent. And it found, and the plaintiff in fact stipulated, that the anticipated profit on the 2319 and the FET, that is the new technology memory, would be at least 20 percent.

* * *

Clearly all of these facts were irrelevant to the District Court's view that the Sherman 2 prohibits price competition by a dominant firm.

Why? Because the District Court believed that any price competition by a dominant firm was unlawful, irrespective of its profitability, irrespective of losses of its business otherwise suffered, irrespective of lower competitive prices. Any effort by IBM to engage in price competition, any effort, was by definition, predatory.

* * *

. . . it does seem to me that heretofore predatory pricing has been a reasonably well understood term in the law. There have been no cases [which] ever held or even suggested that prices available to all customers, returning a reasonable profit, designed to meet competitive prices and terms, could conceivably be unlawful.

* * *

. . . the basic purpose of the Sherman Act is to encourage lower prices and a benefit to the consumers.

* * *

It seems to me that fair price competition has never before been equated with willful maintenance of a monopoly, and for very good reasons, and that competitive prices have never been labeled anticompetitive and predatory.

* * *

. . . the superiority of product or business acumen can only be measured in terms of cost, price, and profit. The distinction between willfully acquired monopoly power and that resulting from a superior product should not ignore pricing. The distinction itself is measured in economic, not technological terms, not who can build the technologically best mouse trap, but who can build the best mouse trap measured in terms of function, performance, and price.

The Sherman Acts seek not to promote technological excellence per se, at any cost, at any price, but competition; the comparatively best products in terms of both price and performance, and, necessarily, marketed at a profit.

* * *

Telex makes the point, and the District Court's opinion suggests, that IBM recouped what are characterized as losses by raising prices on other products. Now, there weren't any losses in any event. Some revenue in the near term was reduced by lowering prices of equipment on rent. That resulted in some immediate revenue decreases which, in fact, were more than offset by cost savings.

But, in any event, the contention would be relevant to some theory of the antitrust laws only if it can be shown that IBM exercised monopoly power in one market in order to more effectively compete in the other; to subsidize from its monopoly something in the competitive market. And the facts here happen to be the other way, because the price increases which were some general price increases on a number of products were made in the market found to be competitive, and the price decreases in response to competition were made in the market found to have been monopolized.

So, the cases that suggest the subsidization of one market with another are not relevant to the facts here.

Now, one final point I would like to make clear on intent, if I may.

The Court makes some very harsh and conclusive findings with respect to IBM's intent in "eliminating," "suppressing," "destroying," its plug-compatible competition . . . I would urge, if you have not already done so, that this Court look at the references in Mr. Walker's [Floyd L. Walker, attorney for Telex] brief, to the documents and the evidence he cites, for that purpose, and to see whether those documents are consistent with the view that I take which is, of course, IBM was worrying about its competition, of course it studied it, . . . and of course it tried to take action that was legal, lawful, profitable, to prevent, in the words of Telex, the erosion of its business. I don't deny that intent. I don't deny any intent. We knew perfectly well what we were doing. We knew that might impact Telex and other plug-compatible manufacturers. I don't think we had any other intent and I think that any other intent would be totally irrelevant to this case. I don't think that if what you do in the marketplace is lawful that the fact you thought something or somebody in a corporation that acts through hundreds and hundreds of people thought something or said something makes an otherwise totally lawful act unlawful. I don't think that's the law. Perhaps it's ten years of law teaching. I react to the notion that intent, viewed in some subjective way of that kind, can change the consequences, particularly in an Act such as the Sherman Act which is designed to regulate economic conduct in the marketplace and which is designed to encourage fair competition and which is designed to benefit the consumer.

Thomas D. Barr:

May it please the Court, we believe that there are four reasons why the judgment of the District Court with respect to Telex's complaint ought to be reversed.

First, we believe that the facts found by the District Court establish, overwhelmingly, that IBM does not have monopoly power and that, therefore, judgment should now be entered for IBM.

Second, we believe that the facts found by the District Court clearly establish that the acts done by IBM were legitimate competitive acts . . .

Third, . . . we believe very strongly that the conclusions the District Court reached with respect to injury or fact of damage were plainly wrong.

Fourth, the District Court twice concluded that the amount of damages had not been proved. The first time the Court said the plaintiff had failed to directly prove what damage was caused by IBM, and the second time the Court added that the damages could not even be approximated . . .

* * *

Let me begin my argument, then, with a very oversimplified hypothetical which we think will help us focus the Court's attention on what we conceive to be the important issues in this case.

Assume, if you will, that the Innovator Corporation started five years ago to market a new and better mouse trap. Now, Innovator Corporation, in my hypothetical, is one of 96 mouse trap manufacturers in the United States, but the quality of the mouse trap that it made five years ago was such that the world beat a path to its door in the conventional way and Innovator Corporation now has about 35 to 40 percent of all the mouse traps installed in the United States.

Because of the success of Innovator's mouse trap, the Copying Company, and about a hundred other companies, have recently made copies of Innovator's mouse trap; copies with small improvements because Innovator's mouse trap has been out in the marketplace for five years. These 100 companies offer their products to replace mouse traps made by Innovator at much lower prices.

The Copying Company and the others are very successful and so are Innovator Corporation's other mouse trap manufacturing competitors.

Innovator Corporation creates a number of study groups. It calls them "Task Forces," and they study almost everything that there is to study about the Copying Corporation . . . and they conclude that the only way for Innovator to continue to compete is, first, to either reduce the prices to . . . competitive levels, or second, to develop a still better mouse trap.

Does Section 2 of the Sherman Act prohibit those price reductions or those new products? We say it does not because the purpose of Section 2 of the Sherman Act plainly is to compel free, unfettered competition. And to prevent Innovator Corporation . . . to reduce its prices to profitable levels or to come out with a new product is to achieve exactly the opposite.

We say that no case prior to the decision of the District Court below has held that a corporation in this circumstance may not do as Innovator does, and we think that Telex says that Innovator Corporation ought to be prohibited . . . from reducing its prices or coming out with new products. Now that is so because the necessary thesis which Telex must take is: When Telex offers a lower priced copy of an IBM product, that IBM product, itself, isolated from all other products of the same type, becomes a market. IBM obviously has a very high share of that product which has become a market, and according to the theory, IBM, therefore, has monopoly power.

When IBM then reduces its price to meet the competition, according to the theory, IBM has willfully exercised monopoly power and, hence, if injury can be proved, violated Section 2 of the Sherman Act.

Now, the result of that thesis is a legal rule that says that IBM may not price its products as low as Telex prices its products.

* * *

Let me describe, then, as background, the development of the electronic data processing or EDP industry.

It is only about 20 years old at this juncture. It has been characterized by enormous growth and enormous entry. The number of companies in the industry from 1952 to 1970 has grown from 13 to 1,773. The total revenue of the industry has grown from $48-million to $10-billion. The number of companies who manufacture systems has grown from three to 96.

The District Court found that, generally, the EDP industry, and I'm quoting, "had produced progressively better products at progressively lower costs, including the products of the type which Telex makes."

* * *

Now, IBM is the largest company in the EDP industry, and its share, measured by the census taken under Judge Neville's direction from the District Court in Minnesota, its share of EDP industry products, and services is about 35 percent.

IBM's success, the District Court found, has been due to a large measure of skill, industry, and foresight . . . indeed the District Court concluded, and I'm quoting, "that, broadly defined, the EDP industry appears competitive and dynamic."

The major portion of the competition in the EDP industry is on a systems basis. IBM and some 95 other systems manufacturers develop, manufacture, and market systems.

* * *

Because the EDP industry is so dynamic, a very large part of the installed systems are on lease. Until mid-1971, the only lease which IBM had was cancellable by customers on 30 days notice.

In the mid-1960s two additional ways of marketing this equipment grew up. First, a group of companies, generally called leasing companies, purchased all or parts of systems and then they offered those systems in competition with the systems manufacturers to the users at lower monthly rental prices in exchange for a commitment from the user of a lease of two or three or four or five years or six years in some cases.

The second group of companies were peripheral equipment manufacturers, like Telex, and essentially they copied the particular boxes within the system . . . They avoided all of the systems expenses, the design, the software, the engineering, the marketing expenses, and, most significantly, they avoided the entrepreneurial risk because they copied only successful boxes.

They offered to replace individual boxes on lease at much lower prices, again in exchange for a commitment by the user for a longer term lease.

The District Court found that it was easy for those companies to enter, because they copied and because they avoided the costs. The number of companies quickly grew from two or three in 1966, the Court found, to 100 who, at the time of trial, made plug-compatible equipment for IBM equipment—for IBM systems, and to about 250 who made plug-compatible equipment for other systems manufacturers. That includes the 100.

The Court found that . . . as a result of this very rapid growth . . . "IBM's business was substantially eroded."

IBM responded to that erosion and to the competition of the other competitors in this competitive and dynamic industry with lower prices and better products.

Telex claims and the District Court found that those acts violated Section 2 of the Sherman Act because IBM "possessed monopoly power in the relevant market of peripheral equipment plug-compatible to IBM CPU's and five submarkets of that market."

We think there are many reasons why that conclusion is wrong, and those reasons spring from the Court's own findings.

* * *

First, I turn to definition and to a rather unusual aspect of the case; the Court's selection of a limited time period within which to measure the market. This is a novel approach . . . the Court said, "We are not primarily concerned with prior or subsequent years, but that in view of the issues of this case a determination must be made as to the relevant market or markets in the period 1969-1972."

We believe there is no justification at all for limiting the time period . . . it is particularly wrong in a changing and dynamic industry to limit the period of time to be considered to a four-year period.

* * *

Now, Telex claimed that the market should be limited only to those products made or marketed—or in one case only thought about—by Telex and which were then attached to IBM systems and the similar IBM products also attached to the systems and the products of any other manufacturers of the type made by Telex which also were at the time attached to the IBM systems. Telex called that market "peripheral devices plug-compatible with the CPU's or central processing units of IBM."

Now, of course, if you start with that approach . . . by definition, IBM has a very high share. We are talking, principally, about IBM's own products and about nothing else. One of the unique aspects of this market is that it includes 100 percent of IBM's products and less than all of every other manufacturer's products, including less than all of Telex's.

IBM offered essentially three broader ways of looking at the competitive reality that we saw. First, all EDP products and services, of which the Court found IBM had about 35 percent. Second, all systems hardware, of which the Court found IBM had 36 percent. And third, all of any of the particular boxes at issue, such as disk drives, memories or printers, of which the Court found IBM had varying degrees between 30 percent and 45 percent.

Now, we believe, as I say, that the Court's own findings overwhelmingly demonstrate that the Telex market definition should be rejected and that the broader markets that I have just described, which include the systems manufacturers and the leasing companies, must be adopted. ■

What next?

The U.S. Court of Appeals for the 10th Circuit, which is expected to hand down a written decision this summer, has several options: It may uphold or reverse all or part of the lower court's judgment. Or it may send all or part of the case back for retrial.

Either side may appeal all or part of the Appeals Court's decision to the U.S. Supreme Court, which has the right to refuse to hear any antitrust case—except those in which the U.S. Government is the plaintiff. Such refusal to hear an appeal, in effect, upholds the Appeals Court's decision. But if it decides to hear the appeal, the Supreme Court can overrule or uphold all or part of any lower court decision. There is no appeal from a final Supreme Court decision.

It was one of the toughest U.S. Opens—on one of golf's most difficult courses, Winged Foot in Mamaroneck, N.Y. Even Hale Irwin—the winner—had a difficult time of it, finishing seven over par. For four days, the greatest golf pros scrambled for pars and bogies and sometimes watched 20-foot putts slide 15 feet past the hole. IBM watched those putts slip away, too, and—through its information service for the U.S. Open and 75 IBM volunteers—reported just what havoc Winged Foot was wreaking on golf's elite.

Using specially-built measuring devices, IBMers stationed behind the greens recorded where each drive landed (frequently in the rough or a sandtrap), the length of each golfer's putt, and how each fared on the hole. On selected holes, they measured the length of the drive. This information was called into the IBM sports information van, where operators using IBM 3270 terminals keyed the data into a System/370 Model 155 in Poughkeepsie. Within seconds, the information was available to spectators, players, and the press via 3270 display units, six around the course, four in the press tent, and one in the clubhouse.

Who was doing the best on first putts? How did the top three golfers compare? How was Arnold Palmer (above) doing against the rest of the field? It was all there, including personal histories on each golfer and background on the course and the U.S. Open itself. More than one columnist remarked: "Wish we had IBM at all the tournaments."

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